57300-3-U

1984
South Dakota
Motor Vehicle Traffic Accident Summary

Prepared By
Department of Commerce and Regulation
Highway Safety Program and
Department of Transportation
Accident Records Section

William J. Janklow
Governor

TABLE OF CONTENTS

		PAGE
I.	INTRODUCTION	
	South Dakota Statistical Summary 1984	2
II.	HISTORICAL TRENDS	3
	Alcohol Involvement	3
	Motor Vehicle Accidents	7
	Cycle and Pedestrian Accidents	11
	Holiday Counts	13
III.	1983 MOTOR VEHICLE ACCIDENT PROFILE	15
	Introduction	15
	First Harmful Event	20
	Manner of Collision	21
	Highway System	22
	County Summary	24
	City Summary	24
	Roadway Surface Conditions	24
	Contributing Circumstances	24
	Accidents by Time of Day, Month, and Day of Week	30
	Drivers	34
	Motorcycles	41
	Pedestrians	43
	Bicycles	45
	Use of Safety Equipment	46
IV.	GLOSSARY OF TERMS	49
V.	APPENDIX A	51
	Alcohol Evaluation	51

LIST OF TABLES

TABLE		PAGE
2-1	Alcohol-Involved Accidents as Percent of All Accidents	3
2-2	Comparison of Accident and Arrest Activity Before and After Project Implementation	5
2-3	South Dakota Yearly Comparison of Motor Vehicle Traffic Fatalities, Injuries, Accidents, Miles Traveled, and Registered Motor Vehicles	8
2-4	Fatality Rate Comparison 1975-1984	9
2-5	Motorcyle Accidents 1970-1984	11
2-6	Pedestrian Fatalities and Injuries 1970-1984	12
2-7	Bicycle Fatalities and Injuries 1970-1984	12
2-8	Accidents During Holidays 1975-1984	13
3-1	Fatalities and Severity of Injuries of Drivers, Passengers, Pedestrians, and Bicyclists	15
3-2	Fatalities and Injuries by Mode of Transportation	16
3-3	Vehicle Types Involved in Accidents	18
3-4	Age Group of Persons Killed and Injured	19
3-5	First Harmful Event	20
3-6	Manner of Collision for Accidents Involving a Collision Between Two or More Motor Vehicles	21
3-7	Accidents by Type of Highway	22
3-8	Reported Traffic Accidents South Dakota Counties	25
3-9	Counties Having More Than Two Percent of the Rural Fatal and Injury Accidents	27
3-10	Traffic Accidents South Dakota Cities Population 2500 and Over	29
3-11	Roadway Surface Conditions	30
3-12	Accidents By Time of Day	31
3-13	Accidents By Month	32
3-14	Accidents By Day of Week	32
3-15	Age of Drivers in Accidents	34
3-16	Age of Drinking Drivers in Accidents	35
3-17	Licensed Drivers By Age and Fatal and Injury Accidents	36
3-18	Motor Vehicle Driver Contributing Circumstances	40
3-19	Motorcyclists By Age Group	41
3-20	Age of Pedestrians in Traffic Accidents	43
3-21	Alcohol Involvement By Pedestrians	44
3-22	Rural v. Urban Pedestrian Accidents	44
3-23	Age of Bicycle Drivers in Traffic Accidents	45
3-24	Safety Restraint Use By Motor Vehicle Drivers in All Accidents	46
3-25	Helmet Use By Motorcycle Drivers in Accidents	47
A-1	Fatal Motor Vehicle Traffic Accidents	53
A-2	Alcohol-Involved Fatal Motor Vehicle Traffic Accidents	53
A-3	Fatal and Injury Motor Vehicle Traffic Accidents	54
A-4	Alcohol-Related Fatal and Injury Motor Vehicle Traffic Accidents	54
A-5	Vehicle Miles Traveled	55
A-6	DWI Arrest Activity	55

LIST OF FIGURES

FIGURE		PAGE
2-1	Traffic Fatalities - Alcohol Related v. Non-Alcohol Related	4
2-2	Traffic Injuries - Alcohol Related v. Non-Alcohol Related	4
2-3	DWI Arrests Compared to Accident Experience	6
2-4	Fatality Rate Comparison 1975-1984	10
3-1	Fatalities By Vehicle Type 1984	17
3-2	Injuries By Vehicle Type	17
3-3	Traffic Accidents By Highway System	23
3-4	Fatal Traffic Accidents By Highway Systems	23
3-5	Rural Fatal And Injury Accidents By County	28
3-6	Fatal And Injury/Property Damage Only Accidents By Time of Day	33
3-7	Fatal And Injury/Property Damage Only Accidents By Month	33
3-8	Fatal And Injury/Property Damage Only Accidents By Day of Week	33
3-9	Drivers By Age Group	37
3-10	Young Drivers By Age Group	38
3-11	Motorcyclists By Age Group	42

I. INTRODUCTION

The South Dakota Motor Vehicle Accident Summary was developed to provide an overview of the South Dakota traffic accident picture, as well as make frequently requested information available. Information from 1984 comprises the major portion of the book; however, basic historic trends are also provided for reference.

The Motor Vehicle Accident Summary is divided into two main sections, Historical Trends and 1984 Motor Vehicle Accident Profile. The Historical Trend section provides information on alcohol involvement in motor vehicle crashes and results of South Dakota's efforts to combat the drinking driver. This section also provides data on accident trends. The 1984 Accident Profile section details the accident picture for 1984; as well as a glossary of terms and appendix to provide further information.

The majority of the information in this book is provided by the Accident Records Section within the Department of Transportation. State law requires an accident report be filed for each motor vehicle traffic accident resulting in the death or injury of a person or accumulated property damage of $400 or more. Law enforcement agencies provide the accident reports to Accident Records. These reports are available to the public for a fee of two (2) dollars.

Examples of reports available through Accident Records are:

STANDARD REPORTS - These reports provide the user with a standard set of summary information for a preselected subset of all accidents, e.g., all accidents involving a drinking driver.

PLOT MAPS - These maps supply the user with a graphic display on which the location of each accident in a given geographic area has been plotted on transparent paper and scaled to overlay maps provided by the Department of Transportation.

SPECIAL REQUESTS - Special requests are answered using several computer packages, one of which is an on-line query system which provides almost immediate response to requests of a very specific nature.

For additional information or copies write or call:

Accident Records Section
118 West Capitol Avenue
Pierre, SD 57501-2080
Phone: (605)773-3868

OR

Office of Highway Safety
118 West Capitol Avenue
Pierre, SD 57501-2080
Phone: (605)773-3675

SOUTH DAKOTA

STATISTICAL SUMMARY

1984

NUMBER OF REPORTED MOTOR VEHICLE TRAFFIC ACCIDENTS: 15,018

NUMBER OF MOTOR VEHICLE TRAFFIC ACCIDENT INJURIES: 6,119

NUMBER OF MOTOR VEHICLE TRAFFIC ACCIDENT FATALITIES: 143

PERCENT OF DRIVERS IN FATAL ACCIDENTS WHO HAD BEEN DRINKING: 36.4%

NUMBER KILLED IN ALCOHOL-RELATED ACCIDENTS: 76

NUMBER INJURED IN ALCOHOL-RELATED ACCIDENTS: 1,351

NUMBER OF PEDESTRIANS KILLED: 14

NUMBER OF MOTORCYCLISTS KILLED: 10

NUMBER OF BICYCLISTS KILLED: 4

PERCENT OF LICENSED DRIVERS UNDER 25: 22%

PERCENT OF ACCIDENT-INVOLVED SPEEDING DRIVERS UNDER 25: 54%

PERCENT OF ACCIDENT-INVOLVED DRINKING DRIVERS UNDER 25: 52%

NUMBER OF DWI CONVICTIONS: 7,997

NUMBER OF FELONY DWI STATE PENITENTIARY INMATES: 58

SEATBELT USE RATE OF ACCIDENT-INVOLVED DRIVERS: 8.9%

HELMET USE RATE OF ACCIDENT-INVOLVED MOTORCYCLISTS: 32.5%

NUMBER OF UNRESTRAINED CHILDREN UNDER 5 YEARS OF AGE KILLED IN MOTOR VEHICLE ACCIDENTS: 3

NUMBER OF PROPERLY RESTRAINED CHILDREN UNDER 5 YEARS OF AGE KILLED IN MOTOR VEHICLE ACCIDENTS: 0

AVERAGE TRAVEL SPEED ON SOUTH DAKOTA HIGHWAYS: 59.1 MPH

PERCENT OF MOTORISTS EXCEEDING 55 MPH: 50%

II. HISTORICAL TRENDS

Alcohol Involvement

Alcohol continues to be a significant factor in motor vehicle accidents, especially in fatal and injury accidents (See TABLE 2-1 and FIGURES 2-1 and 2-2). The numbers of persons killed and injured in alcohol-related accidents has declined since the State of South Dakota increased DWI enforcement and public awareness efforts in 1981.

TABLE 2-1
ALCOHOL-INVOLVED ACCIDENTS AS PERCENT OF ALL ACCIDENTS

	1979	1980	1981	1982	1983	1984
Total Accidents	15.2 (2438)	17.4 (2588)	18.0 (2591)	14.0 (2044)	13.5 (2006)	13.2 (1975)
Fatal Accidents	55.6 (94)	55.9 (105)	61.7 (100)	59.7 (77)	49.0 (72)	53.8 (71)
Injury Accidents	23.2 (1122)	27.0 (1286)	27.4 (1266)	22.2 (930)	22.3 (928)	20.6 (879)
PDO Accidents	11.0 (1222)	12.1 (1197)	12.8 (1225)	10.1 (1037)	9.5 (1006)	9.7 (1025)
Fatalities	58.3 (123)	54.4 (124)	62.1 (110)	58.1 (86)	50.9 (89)	53.1 (76)
Injuries	25.7 (1845)	29.3 (2094)	29.0 (1964)	23.5 (1453)	24.2 (1513)	22.1 (1351)

NOTE: 1979-1982: Alcohol Involvement for PDO and Injury Accidents is based on an indication of alcohol use by the investigating officer.
Alcohol Involvement for Fatal Accidents is based upon a positive BAC result and/or indication of alcohol use by the investigating officer.
1983-1984: All Accidents - At least one driver, pedestrian or bicycle driver had been drinking in the opinion of the investigating officer.

Source: Department of Transportation:Accident Records

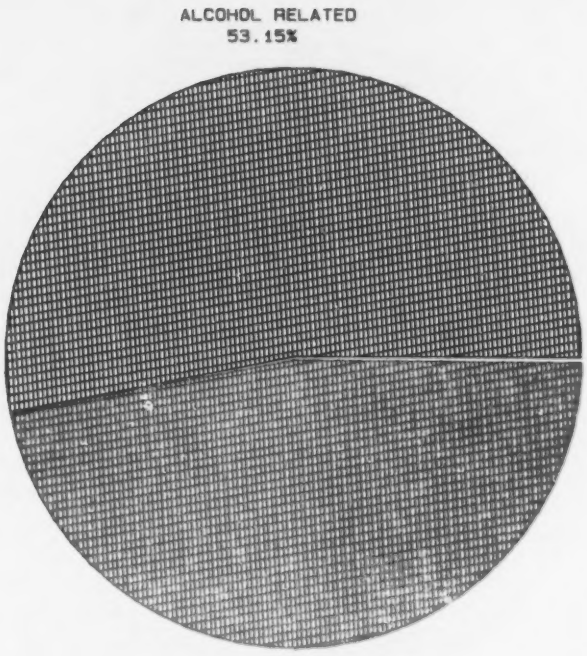


FIGURE 2-1 1984 TRAFFIC FATALITIES

ALCOHOL RELATED V. NON ALCOHOL RELATED

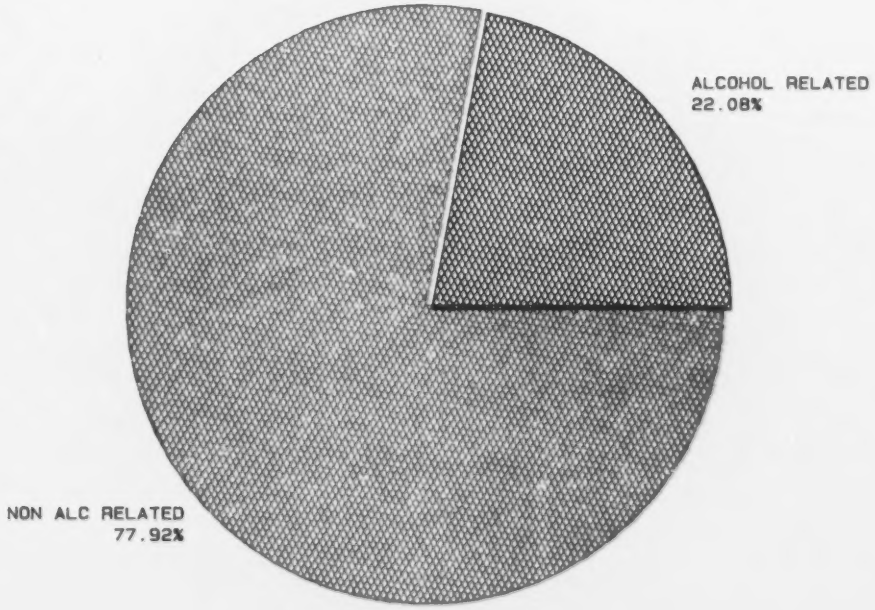


FIGURE 2-2 1984 TRAFFIC INJURIES

ALCOHOL RELATED V. NON ALCOHOL RELATED

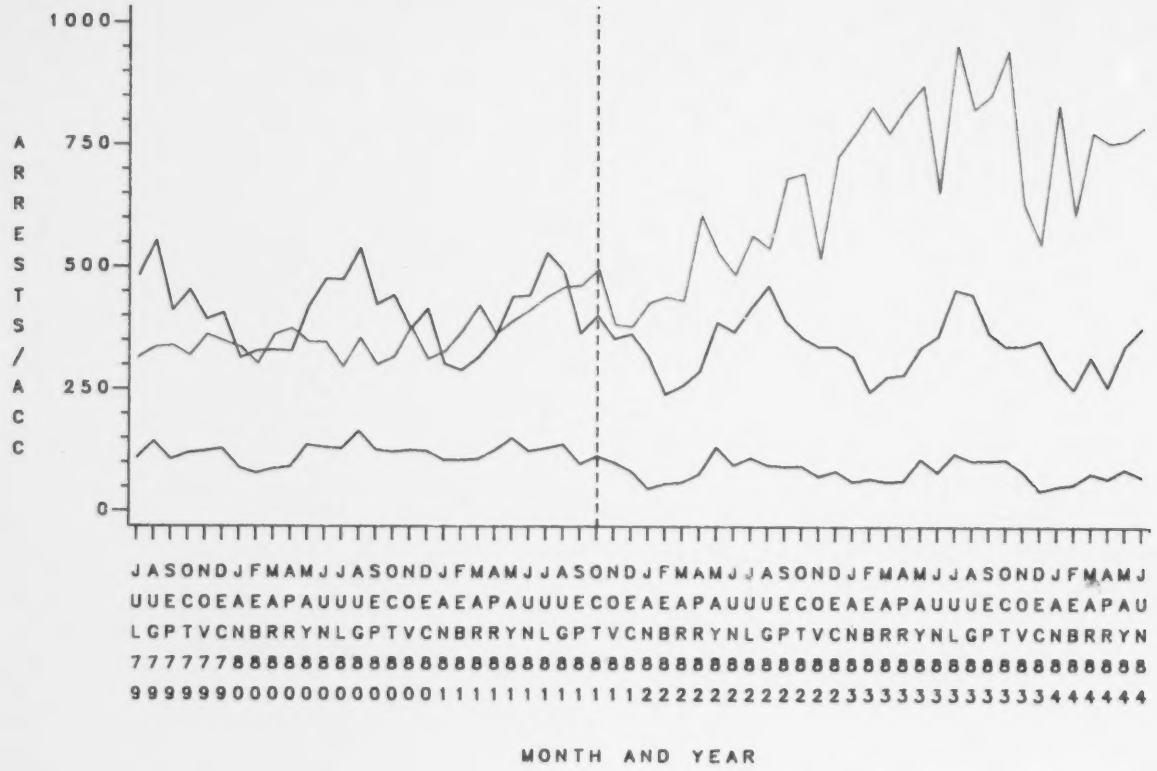
An impact evaluation was conducted to quantify the effects these statewide efforts have had on reducing alcohol-related fatal and injury accidents. The data used for this analysis consisted of monthly counts from July 1979 through June 1984 of DWI arrests, motor vehicle traffic accidents, and vehicle miles traveled. October 1981 was chosen as the intervention point or when the increased enforcement and public awareness efforts began. Accident data was limited to fatal and injury accidents to eliminate the confounding effects introduced with property damage only accidents. Vehicle miles traveled data was used to reflect changes in the economy and its relationship with traffic accidents. DWI arrest data was used as a measure of the efforts to remove the drinking driver and its relationship with traffic accidents (see Appendix A for data used in the evaluation).

The average monthly count of alcohol-related fatal accidents decreased 39 percent after the enforcement and public awareness effort was initiated October 1981 through June 1984. The average monthly count of alcohol-related fatal and injury accidents decreased 31 percent. DWI arrests increased by 85 percent per month. The vehicle miles traveled increased slightly (see TABLE 2-2 and FIGURE 2-3).

TABLE 2-2
COMPARISON OF ACCIDENT AND ARREST ACTIVITY
BEFORE AND AFTER PROJECT IMPLEMENTATION

	Average Monthly Counts Before	After	Percent Change
Fatal Accidents			
All	15.8	11.0	-30%
Alcohol Related	9.3	5.7	-39%
Non-Alcohol Related	6.5	5.3	-18%
Fatal & Injury Accidents			
All	419.4	355.2	-15%
Alcohol Related	118.2	82.1	-31%
Non-Alcohol Related	301.2	273.1	-9%
DWI Arrests	369.2	682.2	+85%
Vehicle Miles Traveled (In Millions)	471.6	490.6	+4%

Source: Department of Transportation:Accident Records



DWI ARRESTS
FATAL & INJURY ACCIDENTS
ALCOHOL INVOLVED F & I ACC.

OCT, 1981: INCREASED ENFORCEMENT AND PUBLIC AWARENESS EFFORTS BEGAN

FIGURE 2-3
DWI ARRESTS COMPARED TO ACCIDENT EXPERIENCE

MONTHLY DATA FROM JULY, 1979 THROUGH JUNE, 1984

The Box-Jenkins approach to time series analysis was the method chosen for the evaluation. This method is useful for analyzing highway safety data which has been collected over time at equal intervals (such data is called time series) because it allows for the identification of seasonal cycles and long-term trends which often exist in this type of data. Once identified, such cycles and trends can be accounted for, thus preventing them from being mistakenly identified as the impact of the project.

The time series analysis estimated the reduction of fatal and injury crashes at about 29 fatal and injury accidents per month. Furthermore, the reduction in fatal and injury crashes is due to causes other than the economy. To determine if the crash reduction was due to the increased alcohol countermeasures, alcohol-related fatal and injury crashes and DWI arrests were analyzed.

The estimated reduction in alcohol-related fatal and injury crashes is about 27 per month. This accounts for most of the total fatal and injury crash reduction. The alcohol-related fatal and injury accidents are correlated to DWI arrest levels. The correlation is negative, which indicates that as arrests increase, the number of crashes tend to decrease; furthermore, it takes about six months for this impact to take effect.

In summary, it was determined that the increased efforts to remove the drinking driver and not the economy were responsible for the decline in traffic crashes. In actual numbers, there have been 27 fewer alcohol-related fatal and injury accidents per month since October, 1981. In looking at just fatal accidents, there have been 1.9 fewer alcohol-related fatal accidents per month since October 1981. The reduction of these accidents translates into saving about 72 lives and preventing 1,336 non-fatal accidents between October 1981 and June 1984.

Motor Vehicle Accidents

TABLE 2-3 provides a yearly comparison of South Dakota's motor vehicle traffic accidents from 1960 through 1984. Any comparison of motor vehicle accidents must be made with caution due to the changes in the definition of a reportable accident. For example, in the late 1970's the definition of a fatality caused by a motor vehicle accident was changed from the death occurring up to one year after the accident to occurring within 30 days after the accident. Although this would not change the fact that the number and rate of fatalities has shown a steady decline, the decline in the last few years would not have been as much. There does not appear to be a single reason why there are fewer fatalities; however, the national 55 mph speed limit law initiated in 1974 and the increased efforts in the drinking driving area in 1981 have probably had the most impact. Other factors include improvements in the highways, safer vehicles, and traffic enforcement efforts. Also of importance is the fact that both the number of registered motor vehicles and the vehicle miles traveled continue to increase.

TABLE 2-3
SOUTH DAKOTA YEARLY COMPARISON
OF MOTOR VEHICLE TRAFFIC FATALITIES, INJURIES,
ACCIDENTS, MILES TRAVELED, & REGISTERED MOTOR VEHICLES

Year	Fatalities	Rate[1]	Injuries	Total Accd.	Fatal Accd.	Injury Accd.	PDO Accd.	Miles Traveled +(000,000)	Registered Motor Vehicles +(000)
1960	233	6.94	3,656	7,187	191	2,121	4,875	3,359	351
1961	228	6.75	3,848	7,281	184	2,313	4,784	3,379	361
1962	246	6.77	4,248	8,805	191	2,592	6,022	3,631	377
1963	220	5.83	4,123	8,874	185	2,530	6,159	3,776	386
1964	270	7.03	4,569	9,349	211	2,816	6,322	3,839	387
1965	244	6.13	4,685	10,015	194	2,880	6,941	3,983	396
1966	265	6.50	5,072	10,321	205	3,087	7,529	4,075	402
1967	224	5.41	5,286	12,154	183	3,250	8,721	4,142	407
1968	255	5.91	5,612	14,061	215	3,396	10,450	4,313	409
1969	296	6.79	5,921	16,565	219	3,584	12,762	4,361	422
1970	238	5.12	5,492	16,165	189	3,395	12,581	4,648	427
1971	262	5.36	6,705	16,995	210	4,152	12,633	4,884	444
1972	294	5.83	6,718	17,883	235	4,267	13,381	5,039	467
1973	286	5.57	6,774	14,985[2]	228	4,321	10,436	5,136	494
1974	229	4.47	6,211	11,727	203	4,077	7,447	5,126	519
1975	198	3.82	6,769	15,146[3]	163	4,398	10,585	5,186	533
1976	224	4.07	7,423	15,755	188	4,840	10,727	5,503	554
1977	211	3.67	7,603	18,020	180	5,013	12,827	5,754	575
1978	194	3.33	7,861	18,085[4]	168	5,263	12,654	5,830	599
1979	211	3.76	7,189	16,059	169	4,826	11,064	5,614	616
1980	228	4.18	7,147	14,845	188	4,770	9,887	5,456	622
1981	177	3.17	6,771	14,375	162	4,614	9,599	5,582	637
1982	148	2.68	6,174	14,605	129	4,192	10,284	5,528	640
1983	175	2.73	6,264	14,887	147	4,162	10,578	6,406[5]	655
1984	143	2.24	6,119	15,018	132	4,269	10,617	6,394	669

Source: Department of Transportation:Accident Records

---

[1] Number of fatalities per 100 million vehicle miles traveled.

[2] Prior to July 1, 1973 a reportable motor vehicle traffic accident was defined as one involving a death, injury or property damage of $100 or more to one person. July 1, 1973 the PDO amount changed to $250.

[3] January 1, 1975 the definition of a reportable motor vehicle traffic accident was revised as follows: an accident involving a death, injury, or accumulated property damage of $250 or more.

[4] July 1, 1978 the definition of a reportable motor vehicle traffic accident was revised as follows: an accident involving a death, injury or accumulated property damage of $400 or more.

[5] 1983 the formula for computing VMTs was adjusted, resulting in an approximate 9.5% increase in annual VMTs.

The fatality rate per 100 million vehicle miles traveled from 1975-1984 for South Dakota, states surrounding South Dakota and the nation is shown in TABLE 2-4. South Dakota's rate, the national rate and the rate of those states bordering South Dakota have all shown a decline over the last ten years. FIGURE 2-4 compares South Dakota with the national rate and two comparable rural states, North Dakota and Wyoming.

TABLE 2-4
FATALITY RATE COMPARISON
1975-1984

State	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
South Dakota	3.8	4.1	3.7	3.3	3.8	4.2	3.2	2.7	2.7	2.2
Iowa	3.8	4.3	3.4	3.3	3.5	3.4	3.3	2.5	2.6	2.1
Minnesota	3.0	3.0	3.0	3.4	3.0	3.0	2.7	2.0	1.8	1.8
Montana	5.2	4.9	4.9	3.9	5.0	4.9	4.8	3.8	4.0	3.3
Nebraska	3.3	3.4	2.9	2.8	2.8	3.5	3.3	2.3	2.2	2.4
North Dakota	3.8	3.8	3.6	3.5	2.5	2.9	3.0	2.8	2.2	1.9
Wyoming	5.8	6.3	5.6	5.2	5.2	5.2	5.4	3.9	3.4	3.1
National	3.3	3.2	3.3	3.3	3.3	3.4	3.2	2.8	2.6	2.6

Note: Fatality Rate is the number of traffic fatalities per 100 million vehicle miles traveled.

Source: Department of Transportation:Accident Records

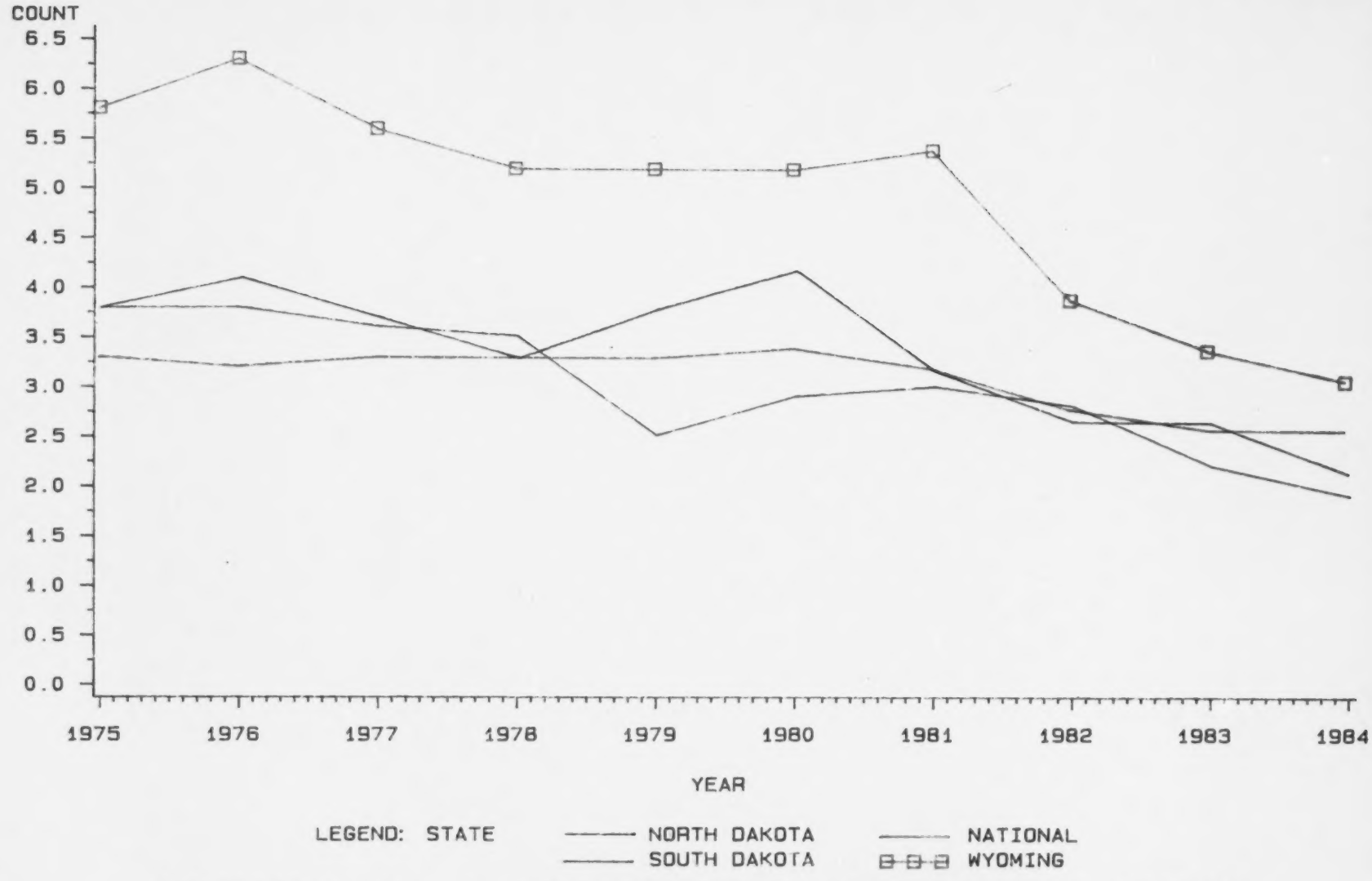


FIGURE 2-4 FATALITY RATE COMPARISON
1975 - 1984

Cycle And Pedestrian Accidents

The following tables provide a yearly comparison of South Dakota's motorcycle, pedestrian, and bicycle accident injuries and fatalities from 1970 through 1984. Moped accidents are included with motorcycle accidents. There have been no fatal moped accidents recorded in South Dakota and the number of injuries is small. See TABLE 3-2 and Pages 41-45 for additional motorcycle, pedestrian, and bicycle accident information.

TABLE 2-5
MOTORCYCLE ACCIDENTS
1970-1984

Year	Motorcycle Accidents			Motorcyclists		Registered	Licensed
	Total	Fatal	Injury	Killed	Injured	Motorcycles	Motorcyclists
1970	217	8		8	211	11,964	
1971	336	11		13	342	13,865	
1972	314	6		8	312	16,605	
1973	395	13		14	425	19,737	
1974	344	8		9	372	22,964	
1975	377	14	321	14	388	23,980	
1976	465	9	402	9	501	25,058	
1977	495	17	419	19	529	26,560	
1978	523	14	456	14	560	27,590	34,225
1979	597	21	522	22	664	31,102	37,286
1980	707	17	608	18	763	35,045	41,431
1981	697	15	598	15	729	38,265	43,170
1982	548	12	473	13	581	38,418	Not Available
1983	572	12	488	12	590	39,255	45,544
1984	559	10	485	10	563	38,956	45,763

Source: Department of Transportation:Accident Records

TABLE 2-6
PEDESTRIAN FATALITIES AND INJURIES
1970-1984

Year	Fatalities	Injuries
1970	17	158
1971	15	170
1972	30	199
1973	21	161
1974	25	158
1975	11	179
1976	24	158
1977	21	164
1978	15	185
1979	16	167
1980	21	162
1981	20	130
1982	16	146
1983	20	139
1984	14	139

Source: Department of Transportation:Accident Records

TABLE 2-7
BICYCLE FATALITIES AND INJURIES
1970-1984

Year	Fatalities	Injuries
1970	3	67
1971	4	90
1972	2	94
1973	4	82
1974	2	115
1975	1	108
1976	3	99
1977	7	89
1978	3	82
1979	4	96
1980	0	78
1981	0	83
1982	1	93
1983	1	100
1984	4	94

Source: Department of Transportation:Accident Records

Holiday Counts

TABLE 2-8 provides a yearly comparison of South Dakota motor vehicle accident experience during major holiday observances. These counts are frequently requested and reported. It should be noted that in 1984 these holidays averaged 1.27 fatal accidents and 34 injury accidents per 78 hours, while similar non-holiday periods (Friday evening through Monday night) averaged 1.24 fatal accidents and 39 injury accidents per 78 hours.

TABLE 2-8
ACCIDENTS DURING HOLIDAYS
1975-1984

Holiday	Total Hours	Total Accd.	Fatal Accd.	Injury Accd.	Killed	Injured
MEMORIAL DAY*						
1975	78	125	2	39	3	78
1976	78	135	1	47	1	74
1977	78	147	1	46	1	75
1978	78	146	1	54	1	84
1979	78	144	3	60	3	91
1980	78	128	5	46	12	71
1981	78	129	3	48	3	65
1982	78	129	2	45	2	75
1983	78	119	4	43	4	77
1984	78	110	0	36	0	54
FOURTH OF JULY						
1975	78	136	5	62	6	108
1976	78	175	3	51	3	79
1977	78	169	5	70	6	115
1978	102	241	2	108	3	171
1979	30	60	0	27	0	40
1980	78	166	3	56	3	86
1981	78	174	2	63	2	97
1982	78	160	1	64	1	106
1983	78	136	1	46	1	82
1984	30	61	1	22	1	33
LABOR DAY						
1975	78	126	3	47	3	80
1976	78	181	4	68	4	93
1977	78	179	3	70	3	108
1978	78	150	2	66	2	112
1979	78	140	1	55	1	83
1980	78	108	2	35	2	65
1981	78	149	2	68	2	105
1982	78	134	1	62	1	100
1983	78	132	5	48	6	71
1984	78	111	3	42	3	64

*Nationally Observed

Holiday	Total Hours	Total Accd.	Fatal Accd.	Injury Accd.	Killed	Injured
THANKSGIVING						
1975	102	179	0	39	0	57
1976	102	228	2	56	2	96
1977	102	278	0	66	0	95
1978	102	316	2	76	2	122
1979	102	223	3	48	3	67
1980	102	192	3	63	8	94
1981	102	197	0	39	0	54
1982	102	184	2	47	2	67
1983	102	210	2	44	3	71
1984	102	194	2	56	2	83
CHRISTMAS						
1975	102	184	1	41	1	62
1976	78	116	5	37	10	71
1977	78	206	1	58	4	89
1978	78	149	1	40	1	66
1979	102	162	4	53	4	80
1980	102	222	3	58	3	92
1981	78	103	3	21	3	42
1982	78	198	1	42	1	72
1983	78	155	0	30	0	47
1984	102	195	0	35	0	52
NEW YEARS						
1975-76	102	197	2	42	2	61
1976-77	78	197	2	43	2	56
1977-78	78	254	4	61	4	94
1978-79	78	139	1	34	1	44
1979-80	102	204	3	62	5	91
1980-81	102	169	1	58	1	106
1981-82	78	147	1	32	1	42
1982-83	78	137	2	29	2	39
1983-84	78	166	0	41	0	59
1984-85	102	132	2	24	2	39

Source: Department of Transportation:Accident Records

III. 1984 MOTOR VEHICLE ACCIDENT PROFILE

Introduction

This section profiles the reported motor vehicle traffic accidents for 1984. Information will be given on where the accidents are occurring, when accidents happen, who is involved, and factors that contribute to accidents or why they are occurring. Column percentages may not total 100.0 percent due to rounding error.

During 1984 there were 15,018 reported motor vehicle traffic accidents, the majority being property damage only 10,617 (71%). Injury accidents counted for 4,269 (28%) of the accidents, while 132 (1%) were fatal accidents. There were 6,119 persons injured and 143 persons killed in accidents during 1984 (see TABLE 3-1).

TABLE 3-1
FATALITIES AND SEVERITY OF INJURIES OF DRIVERS,
PASSENGERS, PEDESTRIANS, AND BICYCLISTS
1984

	Incapacitating Injuries		Non-Incap Injuries		Possible Injuries		Total Non-Fatal Injuries		Total Fatalities	
	No.	%	No.	%	No.	%	No.	%	No.	%
Drivers	743	62.3	1,676	62.4	1,533	68.5	3,952	64.6	85	59.4
Passengers	366	30.7	904	33.6	665	29.7	1,935	31.6	40	28.0
Pedestrians	64	5.4	55	2.0	20	0.9	139	2.3	14	9.8
Bicyclists	20	1.7	53	2.0	20	0.9	93	1.5	4	2.8
Total	1,193	100	2,688	100	2,238	100	6,119	100	143	100

Note: Incapacitating - severe lacerations, broken limbs or unable to leave the scene of the accident without assistance.

Not Incapaciting - minor lacerations, lumps on the head, abrasions and bruises.

Possible - momentary unconsciousness, limping, nausea, and complaint of pain and injuries not evident.

Source: Department of Transportation:Accident Records

Table 3-2 provides information on persons killed and injured by method or mode of transportation. During 1984 the majority of the fatalities and injuries occurred in passenger cars. Occupants of pickups and vans accounted for nearly one-fifth of the fatalities and injuries. Also over the one-year period 14 pedestrians, 10 motorcyclists, and four bicyclists were killed (see FIGURES 3-1 and 3-2).

TABLE 3-2
FATALITIES AND INJURIES BY MODE OF TRANSPORTATION
1984

Mode of Travel	Injury Classification			
	Killed		Injured	
	No.	%	No.	%
Passenger Cars	79	55.2	3,840	62.8
Pickups, Vans	27	18.9	1,185	19.4
Pedestrians	14	9.8	139	2.3
Motorcycle, Moped	10	7.0	563	9.2
Trucks (All)	5	3.5	232	3.8
Snowmobiles	1	0.7	2	0.0
Animal-Drawn Vehicle	1	0.7	6	0.1
Bicycle	4	2.8	94	1.5
Other	2	1.4	58	0.9

Note: Other Includes Bus, Farm Machinery, Heavy Equipment, Other Type Motor Vehicles, and Animal Riders.

Source: Department of Transportation:Accident Records

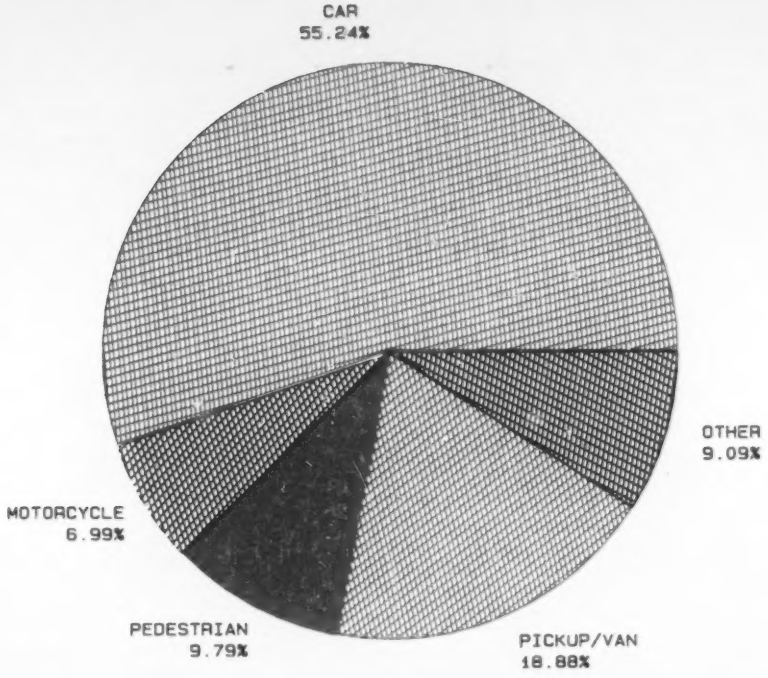


FIGURE 3-1 FATALITIES BY VEHICLE TYPE 1984
PEDESTRIAN AND BICYCLIST

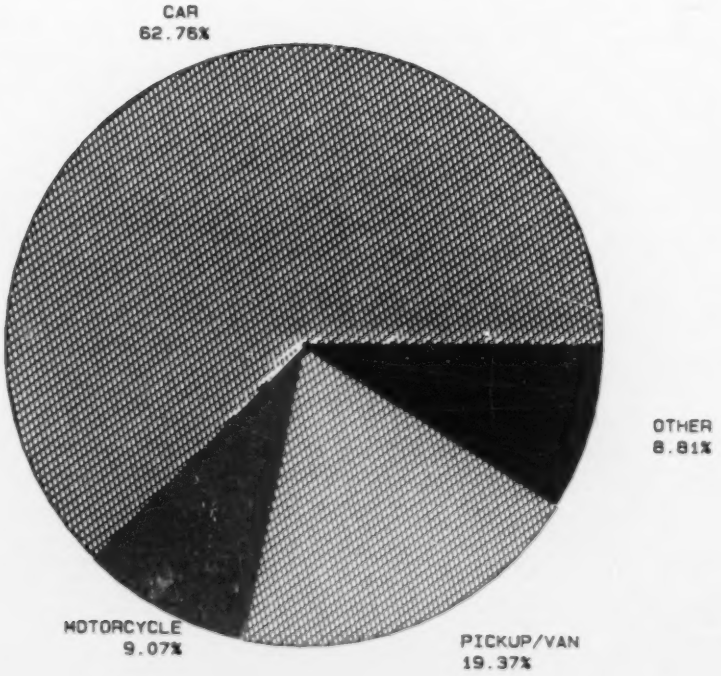


FIGURE 3-2 INJURIES BY VEHICLE TYPE 1984
PEDESTRIAN AND BICYCLIST

TABLE 3-3 provides information on all accident-involved vehicles by type. Trucks are involved in over 11 percent of the fatal accidents, but truck occupants (see TABLE 3-2 Mode of Transportation) make up only 3.5 percent of the persons killed. Passenger cars are 65 percent of vehicles involved in fatal and injury accidents.

TABLE 3-3
VEHICLE TYPES INVOLVED IN ACCIDENTS
1984

	All Accidents		Fatal Accidents		Injury Accidents		PDO Accidents	
	No.	%	No.	%	No.	%	No.	%
Passenger Cars	16,721	67.7	110	57.3	4,468	65.3	12,143	68.8
Pickups, vans	5,852	23.7	43	22.4	1,429	20.9	4,380	24.8
Trucks	1,176	4.8	22	11.5	357	5.2	797	4.5
Motorcycle	567	2.3	10	5.2	495	7.2	62	0.4
Farm Machinery or Heavy Equipment	132	0.5	2	1.0	41	0.6	89	0.5
Bus	74	0.3	1	0.5	21	0.3	52	0.3
Motorhome	38	0.2	0	0.0	7	0.1	31	0.2
Moped	8	0.0	0	0.0	8	0.1	0	0.0
Snowmobile	3	0.0	1	0.5	2	0.0	0	0.0
Other or Unknown	126	0.5	3	1.6	18	0.3	105	0.6
Total	24,697	100	192	100	6,846	100	17,659	100

Source: Department of Transportation:Accident Records

TABLE 3-4 provides information on the age of persons killed and injured. Half of the persons killed were under 28, with more 23 year olds killed than any other single age. The average age of those killed was 36.7. See Drivers Page 34 for additional age information.

TABLE 3-4
AGE GROUP OF PERSONS
KILLED AND INJURED
1984

	KILLED		INJURED	
	No.	%	No.	%
0 - 5	3	2.1	198	3.2
6 - 13	5	3.5	334	5.5
14 - 15	4	2.8	263	4.3
16 - 18	16	11.2	830	13.6
19 - 20	11	7.7	613	10.0
21 - 24	23	16.1	859	14.0
25 - 34	25	17.5	1,151	18.8
35 - 44	11	7.7	588	9.6
45 - 54	10	7.0	411	6.7
55 - 64	7	4.9	345	5.6
65 & Over	26	18.2	431	7.0
Unknown	2	1.4	96	1.6
Total	143	100	6,119	100

Source: Department of Transportation:Accident Records

First Harmful Event

The initial incident which causes injury or damage is referred to as the first harmful event. A motor vehicle collision with an object such as another motor vehicle (parked and not parked), a fixed or other object, a pedestrian, an animal, a bicycle, or a railroad vehicle accounted for over 88 percent of the first harmful events. The other 11+ percent are motor vehicles overturning or other, such as a person falling out of a motor vehicle (see TABLE 3-5).

TABLE 3-5
FIRST HARMFUL EVENT
1984

First Harmful Event	Total Accident No.	%	Fatal Accident No.	%	Injury Accident No.	%	PDO Accident No.	%
Motor Vehicle Collision With:								
Another MV (Not Parked)	7,805	52.0	46	34.8	2,187	51.2	5,572	52.5
A Fixed or Other Object	2,401	16.0	30	22.7	780	18.3	1,591	15.0
An Animal	1,600	10.7	2	1.5	81	1.9	1,517	14.3
A Parked Motor Vehicle	1,202	8.0	1	0.8	134	3.1	1,067	10.0
A Pedestrian	139	0.9	13	9.8	126	3.0	0	0.0
A Bicyclist	95	0.6	4	3.0	91	2.1	0	0.0
A Railroad Vehicle	31	0.2	1	0.8	17	0.4	13	0.1
Non-Collision (Overturning or Other)	1,745	11.6	35	26.5	853	20.0	857	8.1
Total	15,018	100	132	100	4,269	100	10,617	100

Source: Department of Transportation:Accident Records

The majority of the collisions involve two or more motor vehicles in transport (not parked), followed by collisions with a fixed or other object. There were also a number of collisions with animals and parked motor vehicles. Motor vehicles colliding also account for the largest number of first harmful events in fatal accidents, 46 or 34.8 percent. However, non-collisions are second with 35 or 26.5 percent of the fatal accidents. Collisions with fixed or other objects and pedestrians also account for a large number of fatal accidents.

Manner of Collision

The most common type or manner of collision between two or more vehicles is angle collisions, 37 percent, which usually occur at intersections; this holds true for all three accident levels - fatal, injury, and PDO. Rear-end collisions account for 24.0 percent of the total collisions and are second to angle collisions in prevalence. Head-on collisions are over-represented in the fatal collisions, 30.4 percent, but are second to angle collisions which account for 43.5 percent of the fatal collisions. The majority of the injury-producing collisions are angle and rear-end, 38.1 percent and 30.7 percent respectfully (see TABLE 3-6).

TABLE 3-6
MANNER OF COLLISION FOR ACCIDENTS INVOLVING A COLLISION
BETWEEN TWO OR MORE MOTOR VEHICLES
1984

Manner of Collision	Total Accidents No.	%	Fatal Accidents No.	%	Injury Accidents No.	%	PDO Accidents No.	%
Rear-End	1,878	24.0	4	8.7	674	30.7	1,200	21.5
Head-On	188	2.4	14	30.4	113	5.1	61	1.1
Rear-to-Rear	5	0.1	0	0.0	0	0.0	5	0.1
Angle	2,892	37.0	20	43.5	836	38.1	2,036	36.5
Sideswipe-Same Direction	755	9.7	0	0.0	113	5.1	642	11.5
Sideswipe-Opposite Direction	358	4.6	6	13.0	109	5.0	243	4.4
Turning Movement	1,218	15.6	2	4.3	320	14.6	896	16.1
Backing Movement	522	6.7	0	0.0	32	1.5	490	8.8
Total	7,816	100	46	100	2,197	100	5,573	100

Source: Department of Transportation:Accident Records

Highway System

The number of reported accidents by highway system is presented in TABLE 3-7. Over 50 percent of the total, injury, and PDO accidents happened within city limits. City streets and alleys experienced 40 pecent of the PDO accidents and nearly a third of the injury accidents. Approximately one in five of the injury and PDO accidents occurred on U.S. and State highway routes within city limits.

Over 70 percent of the fatal accidents occurred in rural areas with a nearly even split between U.S./State highways and County/Local roads. Across all categories the Interstate System experienced less than 10 percent of the accidents while accounting for nearly 20 percent of the vehicle miles traveled in 1984 (see FIGURES 3-3 and 3-4).

TABLE 3-7
ACCIDENTS BY TYPE OF HIGHWAY
1984

Type of Highway	Total Accidents Number	%	Fatal Accidents Number	%	Injury Accident Number	%	PDO Accidents Number	%
Interstate	1,297	8.6	13	9.8	338	7.9	946	8.9
US/State Hwys.-Rural	2,680	17.8	46	34.8	834	19.5	1,800	17.0
Co./Local Rds.-Rural	2,559	17.0	47	35.6	822	19.3	1,690	15.9
US/State Hwys.-City	2,867	19.1	13	9.8	884	20.7	1,970	18.6
City Streets/Alleys	5,615	37.4	13	9.8	1,391	32.6	4,211	39.7
Total	15,018	100.0	132	100.0	4,269	100.0	10,617	100.0

Source: Department of Transportation:Accident Records

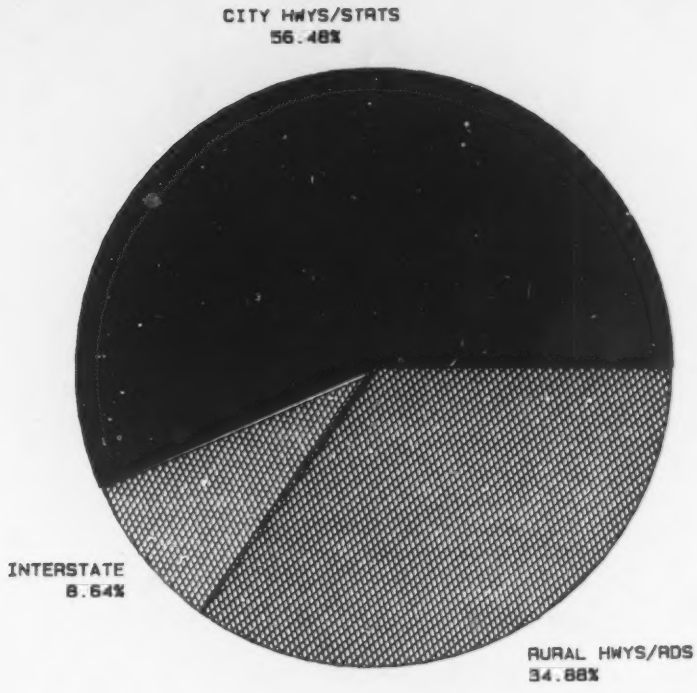


FIGURE 3-3 1984 TRAFFIC ACCIDENTS
BY HIGHWAY TYPE

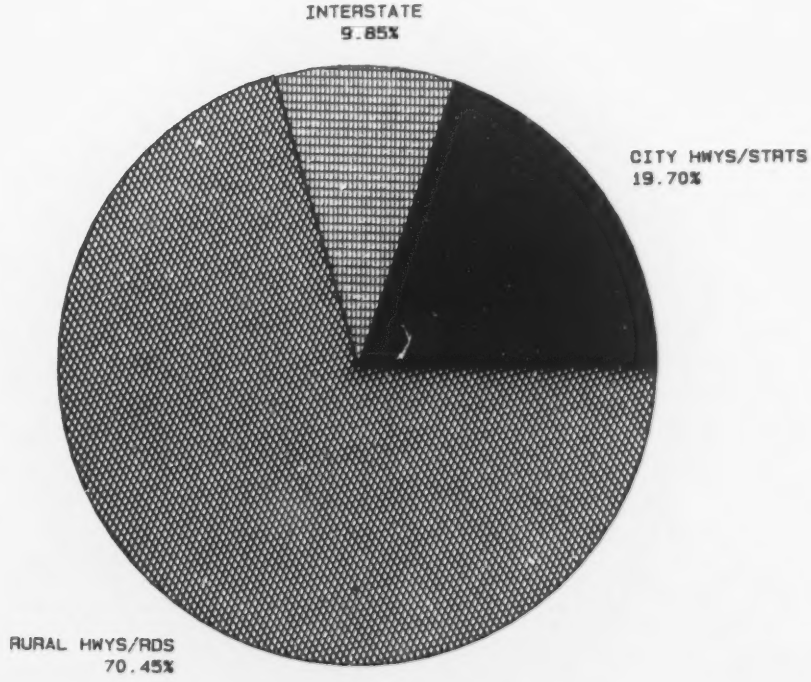


FIGURE 3-4 1984 FATAL TRAFFIC ACCIDENTS
BY HIGHWAY TYPE

County Summary

TABLE 3-8 provides a summary of all reported accidents by county in South Dakota.

Rural fatal and injury accidents occurred predominantly in 11 counties (see TABLE 3-9). Each of these counties reported at least two percent of all rural fatal and injury accidents. The eleven accounted for 52.5 percent of rural fatal and injury accidents and 24 percent of all fatal and injury accidents in South Dakota. Pennington County had 11 percent of all rural fatal and injury accidents with Minnehaha County reporting just over 8 percent of the total. FIGURE 3-5 indicates the location of these 11 counties in South Dakota.

City Summary

Reported traffic accidents within South Dakota's large cities (population of 2,500 and more) are presented in TABLE 3-10. These cities reported half of the total accidents and injury accidents and nearly 16 percent of the fatal accidents. Sioux Falls, Rapid City, and Aberdeen had the most urban accidents during 1984. However, these cities also have the largest population and most travel.

Roadway Surface Conditions

The majority of the accidents occurred on dry roads, including fatal and injury accidents (see TABLE 3-11). Combining similar "bad" road conditions, ice, snow, frost and slush accounts for less than one-fourth (22.2%) of all reported accidents and 16.1 percent of all fatal and injury accidents. Over 70 percent of all fatal and injury accidents occurred on dry roads.

Contributing Circumstances (Vision Obscurement and Other)

Contributing circumstances at the accident level involve two categories: vision obscurement and other. The reporting officer may include one, two, or no contributing circumstances for each category. Vision obscurement refers to conditions such as: fog or smoke, blowing soil, dirt or sand, rain, snow, sleet or hail, windshield or window obscured, glare from sun or lights, trees or other vegetation, snowbank, etc. Vision obscurement as a contributing circumstance was indicated in just under 21 percent of all accidents with two separate vision obscurements being reported in less than three percent of all accidents. Rain, snow, sleet or hail was the most frequently reported vision obscurement and was indicated as a problem in approximately six percent of all accidents.

Contributing circumstances - other was reported in 33 percent of all accidents with two being reported in 3.2 percent of all accidents. These contributing circumstances include wind conditions, slippery surface, road shoulder conditions, objects or animals in the road, phantom vehicle, pedestrians, bicyclists, road construction conditions, rough roads, or faulty or missing traffic control devices. The most common condition reported was slippery surface, and it was reported as a factor in just under 21 percent of all accidents.

TABLE 3-8
REPORTED TRAFFIC ACCIDENTS
SOUTH DAKOTA COUNTIES
1984

County	Total Accd.	Fatal Accd.	Injury Accd.	PDO Accd.	Fatalities	Injuries
AURORA	74	0	14	60	0	20
BEADLE	428	3	125	300	4	177
BENNETT	17	2	9	6	2	17
BON HOMME	89	2	24	63	2	36
BROOKINGS	591	5	154	432	5	217
BROWN	1,007	5	282	720	5	396
BRULE	140	0	23	117	0	38
BUFFALO	8	0	3	5	0	4
BUTTE	166	5	40	121	6	57
CAMPBELL	26	2	4	20	2	9
CHARLES MIX	103	6	26	71	7	41
CLARK	95	2	13	80	3	22
CLAY	150	0	55	95	0	81
CODINGTON	421	3	112	306	4	149
CORSON	63	1	23	39	1	31
CUSTER	204	0	90	114	0	120
DAVISON	577	1	158	418	1	229
DAY	149	1	26	122	1	35
DEUEL	94	1	20	73	1	27
DEWEY	63	2	17	44	2	30
DOUGLAS	30	0	8	22	0	11
EDMUNDS	65	1	15	49	1	19
FALL RIVER	171	1	50	120	1	77
FAULK	49	1	17	31	1	30
GRANT	61	2	19	40	2	30
GREGORY	112	2	40	70	2	62
HAAKON	74	0	14	60	0	21
HAMLIN	93	1	17	75	1	25
HAND	108	2	38	68	2	46
HANSON	89	2	19	68	2	31
HARDING	34	0	10	24	0	13
HUGHES	427	1	92	334	1	137
HUTCHINSON	115	2	29	84	2	50
HYDE	39	0	7	32	0	8
JACKSON	70	1	26	43	1	36
JERAULD	55	0	11	44	0	19
JONES	54	1	8	45	1	9
KINGSBURY	133	1	22	110	1	27
LAKE	201	0	52	149	0	68
LAWRENCE	604	2	156	446	2	204
LINCOLN	331	0	122	209	0	172
LYMAN	92	3	20	69	4	34

TABLE 3-8 (Continued)

County	Total Accd.	Fatal Accd.	Injury Accd.	PDO Accd.	Fatalities	Injuries
MC COOK	169	0	39	130	0	49
MC PHERSON	35	0	7	28	0	10
MARSHALL	91	2	18	71	2	26
MEADE	229	3	72	154	3	106
MELLETTE	23	2	7	14	2	13
MINER	49	0	16	33	0	19
MINNEHAHA	2,869	15	887	1,967	16	1,228
MOODY	181	4	46	131	4	71
PENNINGTON	2,381	14	772	1,595	15	1,118
PERKINS	57	0	21	36	0	30
POTTER	57	1	12	44	1	17
ROBERTS	125	2	30	93	2	49
SANBORN	70	1	18	51	1	26
SHANNON*	38	6	9	23	8	35
SPINK	145	2	33	110	2	49
STANLEY	48	1	14	33	1	14
SULLY	38	0	7	31	0	7
TODD	37	6	10	21	6	20
TRIPP	128	1	27	100	1	35
TURNER	118	1	43	74	1	60
UNION	155	2	58	95	2	97
WALWORTH	74	0	14	60	0	21
YANKTON	418	4	97	317	5	150
ZIEBACH	11	1	2	8	1	4
Total	15,018	132	4,269	10,617	143	6,119

Source: Department of Transportation:Accident Records

* - An update to Shannon County was made after computer tabulations were completed. The final counts for Shannon County are 98 total accidents, 6 fatal accidents, 31 injury accidents, 61 PDO accidents, 8 fatalities and 68 injuries.

TABLE 3-9
COUNTIES HAVING MORE THAN TWO PERCENT OF THE
RURAL FATAL & INJURY ACCIDENTS
1984

County	Number of Rural Fatal & Injury Accd.	Percent of All Rural Fatal & Injury Accd.
BROOKINGS	67	3.3
BROWN	94	4.6
CUSTER	87	4.3
LAWRENCE	113	5.6
LINCOLN	105	5.2
MEADE	61	3.0
MINNEHAHA	164	8.1
MOODY	42	2.1
PENNINGTON	233	11.4
UNION	51	2.5
YANKTON	48	2.4
Total	1,065	52.5

Source: Department of Transportation:Accident Records

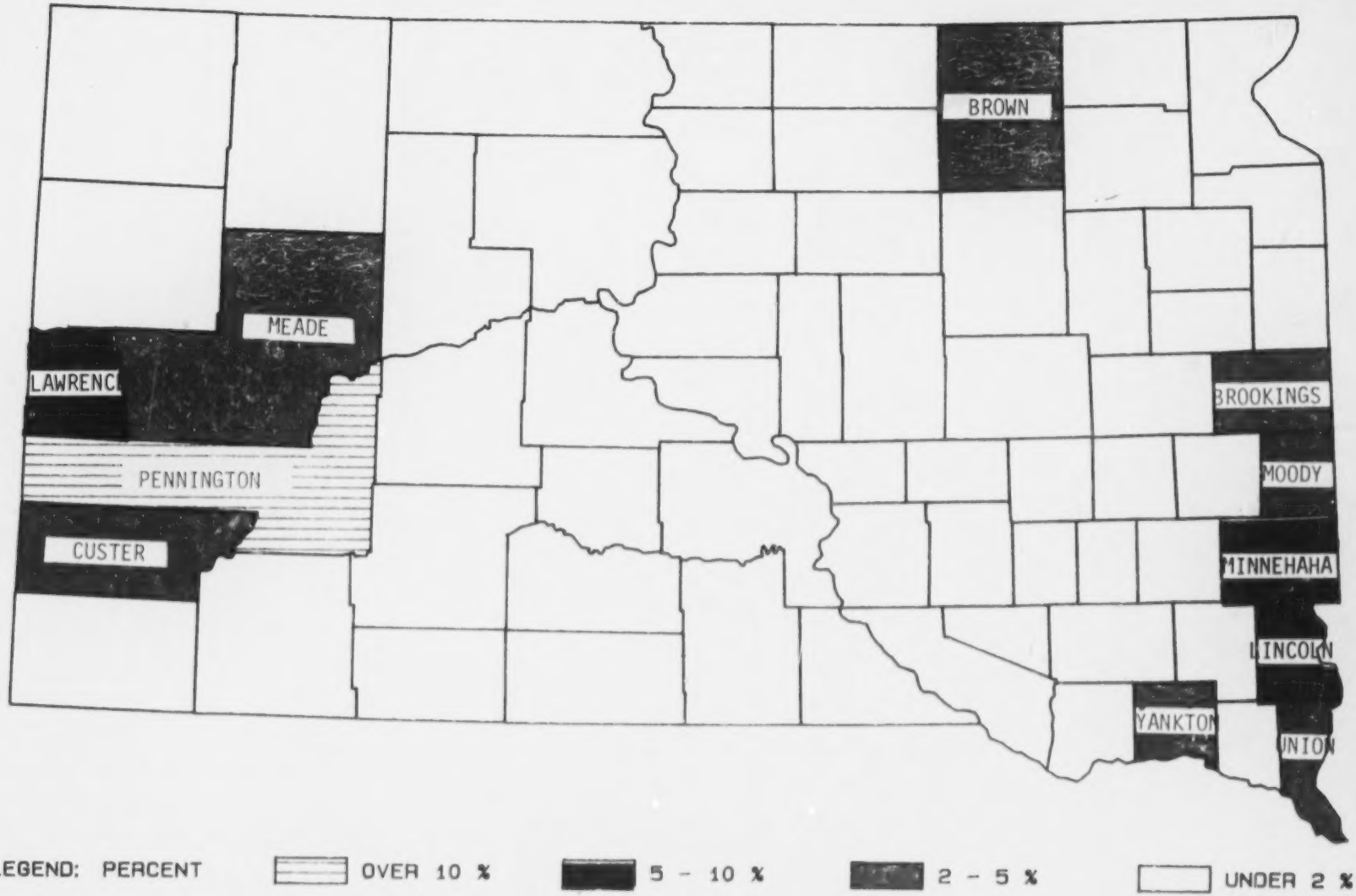


FIGURE 3–5 1984 RURAL FATAL & INJURY ACCIDENTS

PERCENTAGE INVOLVEMENT BY COUNTY

TABLE 3-10
TRAFFIC ACCIDENTS
SOUTH DAKOTA CITIES
POPULATION 2500 AND OVER
1984

City	Total Accd.	Fatal Accd.	Injury Accd.	PDO Accd.	Fatalities	Injuries
Aberdeen	703	1	188	514	1	247
Belle Fourche	88	1	17	70	1	20
Box Elder	48	1	20	27	1	29
Brandon City	19	0	6	13	0	7
Brookings	318	1	86	231	1	122
Canton	47	0	9	38	0	17
Hot Springs	69	0	16	53	0	24
Huron	296	1	90	205	1	124
Lead	81	0	10	71	0	11
Madison	117	0	28	89	0	32
Milbank	0	0	0	0	0	0
Mitchell	480	0	138	342	0	200
Mobridge	27	0	4	23	0	5
Pierre	349	0	79	270	0	112
Rapid City	1,617	3	522	1,092	4	737
Redfield	33	1	4	28	1	5
Sioux Falls	2,330	7	722	1,601	7	982
Sisseton	39	1	7	31	1	9
Spearfish	115	1	26	88	1	27
Sturgis	81	0	14	67	0	17
Vermillion	78	0	25	53	0	35
Watertown	274	2	77	195	3	102
Winner	70	1	9	60	1	9
Yankton	268	0	52	216	0	86

Source: Department of Transportation:Accident Records

TABLE 3-11
ROADWAY SURFACE CONDITIONS
1984

	Total Accd. No.	%	Fatal Accd. No.	%	Injury Accd. No.	%	PDO Accd. No.	%
Dry	9,678	64.4	101	76.5	3,016	70.6	6,561	61.8
Wet	1,800	12.0	15	11.4	512	12.0	1,273	12.0
Ice	2,116	14.1	7	5.3	420	9.8	1,689	15.9
Frost	185	1.2	2	1.5	59	1.4	124	1.2
Slush	211	1.4	1	0.8	54	1.3	156	1.5
Snow	827	5.5	3	2.3	164	3.8	660	6.2
Mud	46	0.3	0	0.0	8	0.2	38	0.4
Other	72	0.5	2	1.5	22	0.5	48	0.5
Unknown	83	0.6	1	0.8	14	0.3	68	0.6
Total	15,018	100	132	100	4,269	100	10,617	100

Source: Department of Transportation:Accident Records

Accidents by Time of Day, Month, and Day of Week

The late afternoon, 3:00-6:00 P.M., was the peak three-hour period for accidents to occur. Twenty-two percent of all accidents and 22.4 percent of the injury accidents occurred during this time period. The one-hour period, 6:00-7:00 PM, had the most fatal accidents (11), and the most fatalities (13), (see TABLE 3-12).

The summer months had the most fatal and injury accidents during 1984, while the winter months had more PDO accidents. Over one-third of the fatal accidents and nearly 31 percent of the injury accidents occurred in June, July, and August. There is more vacation and other recreational travel during the summer. Over 30 percent of the PDO accidents occurred in November, December, and January. The road conditions in the winter months contribute to the increase in PDO accidents (see TABLE 3-13).

Friday and Saturday account for one-third of the fatal and injury accidents. (see TABLE 3-14). FIGURES 3-7 through 3-9 illustrate the trends of time of day, month, and day of week.

TABLE 3-12
ACCIDENTS
BY TIME OF DAY
1984

Time	Total Accd.	Fatal Accd.	Injury Accd.	PDO Accd.	Killed	Injured
MIDNIGHT	453	8	148	297	10	218
1:00 AM	481	6	153	322	6	217
2:00 AM	399	3	135	261	3	182
3:00 AM	245	6	83	156	7	110
4:00 AM	137	2	45	90	2	59
5:00 AM	171	1	48	122	1	66
6:00 AM	307	1	84	222	1	94
7:00 AM	546	4	160	382	4	233
8:00 AM	662	5	168	489	6	238
9:00 AM	528	0	148	380	0	189
10:00 AM	597	7	181	409	8	267
11:00 AM	698	4	193	501	4	267
12:00 PM	800	4	223	573	4	333
1:00 PM	767	6	233	528	6	338
2:00 PM	869	8	252	609	9	396
3:00 PM	1,108	7	324	777	9	449
4:00 PM	1,103	6	335	762	7	495
5:00 PM	1,089	7	295	787	7	395
6:00 PM	831	11	222	598	13	347
7:00 PM	706	4	191	511	4	266
8:00 PM	564	7	146	411	7	219
9:00 PM	690	8	167	515	8	248
10:00 PM	585	8	163	414	8	232
11:00 PM	512	5	141	366	5	223
UNKNOWN	170	4	31	135	4	38
TOTAL	15,018	132	4,269	10,617	143	6,119

Source: Department of Transportation:Accident Records

TABLE 3-13
ACCIDENTS
BY MONTH
1984

Month	Total Accd.	Fatal Accd.	Injury Accd.	PDO Accd.	Killed	Injured
JANUARY	1,339	7	300	1,032	8	417
FEBRUARY	1,048	7	261	780	9	381
MARCH	1,282	5	332	945	7	489
APRIL	967	8	266	693	8	382
MAY	1,037	13	346	678	13	481
JUNE	1,239	11	388	840	11	555
JULY	1,250	15	452	783	16	664
AUGUST	1,309	19	461	829	21	650
SEPTEMBER	1,250	7	382	861	7	533
OCTOBER	1,351	22	380	949	23	549
NOVEMBER	1,424	10	361	1,053	11	509
DECEMBER	1,522	8	340	1,174	9	509
TOTAL	15,018	132	4,269	10,617	143	6,119

Source: Department of Transportation:Accident Records

TABLE 3-14
ACCIDENTS
BY DAY OF WEEK
1984

Day	Total Accd.	Fatal Accd.	Injury Accd.	PDO Accd.	Killed	Injured
SUNDAY	1,985	19	565	1,401	22	841
MONDAY	2,000	12	506	1,482	12	730
TUESDAY	1,873	13	539	1,321	15	749
WEDNESDAY	2,080	25	600	1,455	27	845
THURSDAY	2,098	15	619	1,464	17	858
FRIDAY	2,536	26	710	1,800	28	1,029
SATURDAY	2,446	22	730	1,694	22	1,067
TOTAL	15,018	132	4,269	10,617	143	6,119

Source: Department of Transportation:Accident Records

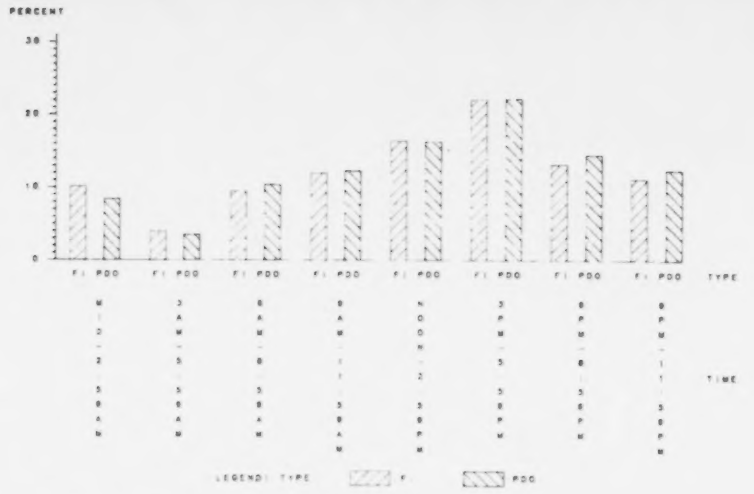


FIGURE 3-6 1984 FATAL & INJURY/PROPERTY DAMAGE ONLY ACCIDENTS
BY TIME OF DAY

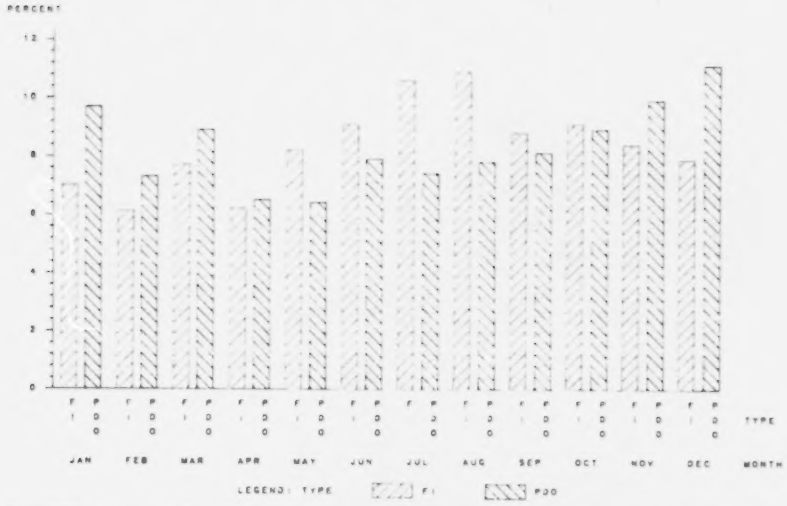


FIGURE 3-7 1984 FATAL & INJURY/PROPERTY DAMAGE ONLY ACCIDENTS
BY MONTH

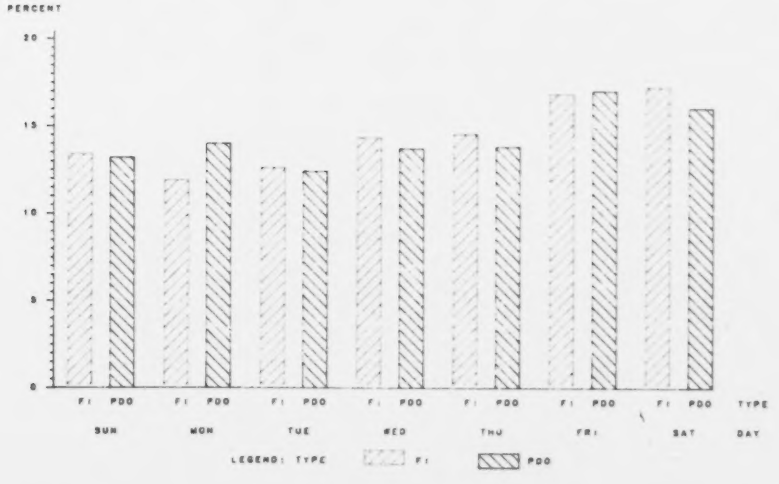


FIGURE 3-8 1984 FATAL & INJURY/PROPERTY DAMAGE ONLY ACCIDENTS
BY DAY OF WEEK

Drivers

There were 23,100 motor vehicle drivers in the 15,018 reported motor vehicle accidents, 184 drivers in fatal accidents and 6,631 drivers in injury accidents. Eighty-four drivers were killed, which is 58.7 percent of all persons killed in motor vehicle accidents while 64.6 percent or 3,950 of the 6,119 injured were drivers.

Young drivers are involved in more accidents than any other age group (see TABLE 3-15). Forty percent of the drivers in reported accidents are under 25 years of age and 63 percent are under 35. Age of drivers involved in fatal and injury accidents follow the pattern of drivers in all accidents. Those drivers under 25 represent 35.3 percent of the drivers involved in fatal accidents and 42.6 percent of the drivers in injury accidents while drivers under the age of 35 make up 58.1 percent of the drivers in fatal accidents and 65 percent of the drivers in injury accidents.

TABLE 3-15
AGE OF DRIVERS IN ACCIDENTS
1984

Age	Drivers In All Accidents No.	%	Drivers In Fatal Accidents No.	%	Drivers In Injury Accidents No.	%	Drivers In PDO Accidents No.	%
6-13	34	0.1	1	0.5	20	0.3	13	0.1
14-15	642	2.8	6	3.3	209	3.2	427	2.6
16-18	3,059	13.2	19	10.3	872	13.2	2,168	13.3
19-20	2,190	9.5	13	7.1	697	10.5	1,480	9.1
21-24	3,422	14.8	26	14.1	1,028	15.5	2,368	14.5
25-34	5,259	22.8	42	22.8	1,501	22.6	3,716	22.8
35-44	2,919	12.6	24	13.0	821	12.4	2,074	12.7
45-54	1,841	8.0	11	6.0	515	7.8	1,315	8.1
55-64	1,702	7.4	14	7.6	450	6.8	1,238	7.6
65-Over	1,853	8.0	24	13.0	493	7.4	1,336	8.2
Unknown	179	0.8	4	2.2	25	0.4	150	0.9
Total	23,100	100	184	100	6,631	100	16,285	100

Source: Department of Transportation:Accident Records

Drinking drivers are of major concern because of the number of alcohol-involved serious accidents. TABLE 3-16 provides information on the age of drinking drivers in motor vehicle accidents. There were a reported 2,058 drinking drivers in all accidents which is about 9 percent of all drivers in accidents. Sixty-seven or 36.4 percent of drivers in fatal accidents had been drinking while 13.8 percent of the drivers involved in injury accidents had been drinking. Young drivers are predominantly the drinking drivers in accidents. Those drivers under 25 years of age accounted for approximately one-half of the drinking drivers in all accidents, fatal accidents, and injury accidents; while those under 35 years of age were 75-80 percent of the drinking drivers in the various accident classes.

TABLE 3-16
AGE OF DRINKING DRIVERS IN ACCIDENTS
1984

Age	Drivers In All Accidents No.	%	Drivers In Fatal Accidents No.	%	Drivers In Injury Accidents No.	%	Drivers In PDO Accidents No.	%
6-13	0	0.0	0	0.0	0	0.0	0	0.0
14-15	17	0.8	0	0.0	9	1.0	8	0.7
16-18	267	13.0	8	11.9	117	12.8	142	13.2
19-20	324	15.7	8	11.9	138	15.1	178	16.5
21-24	483	23.5	16	23.9	212	23.2	255	23.6
25-34	567	27.6	18	26.9	267	29.3	282	26.1
35-44	207	10.1	8	11.9	89	9.8	110	10.2
45-54	101	4.9	4	6.0	47	5.2	50	4.6
55-64	59	2.9	2	3.0	22	2.4	35	3.2
65-Over	26	1.3	3	4.5	7	0.8	16	1.5
Unknown	7	0.3	0	0.0	4	0.4	3	0.3
Total	2,058	100	67	100	912	100	1,079	100

Source: Department of Transportation:Accident Records

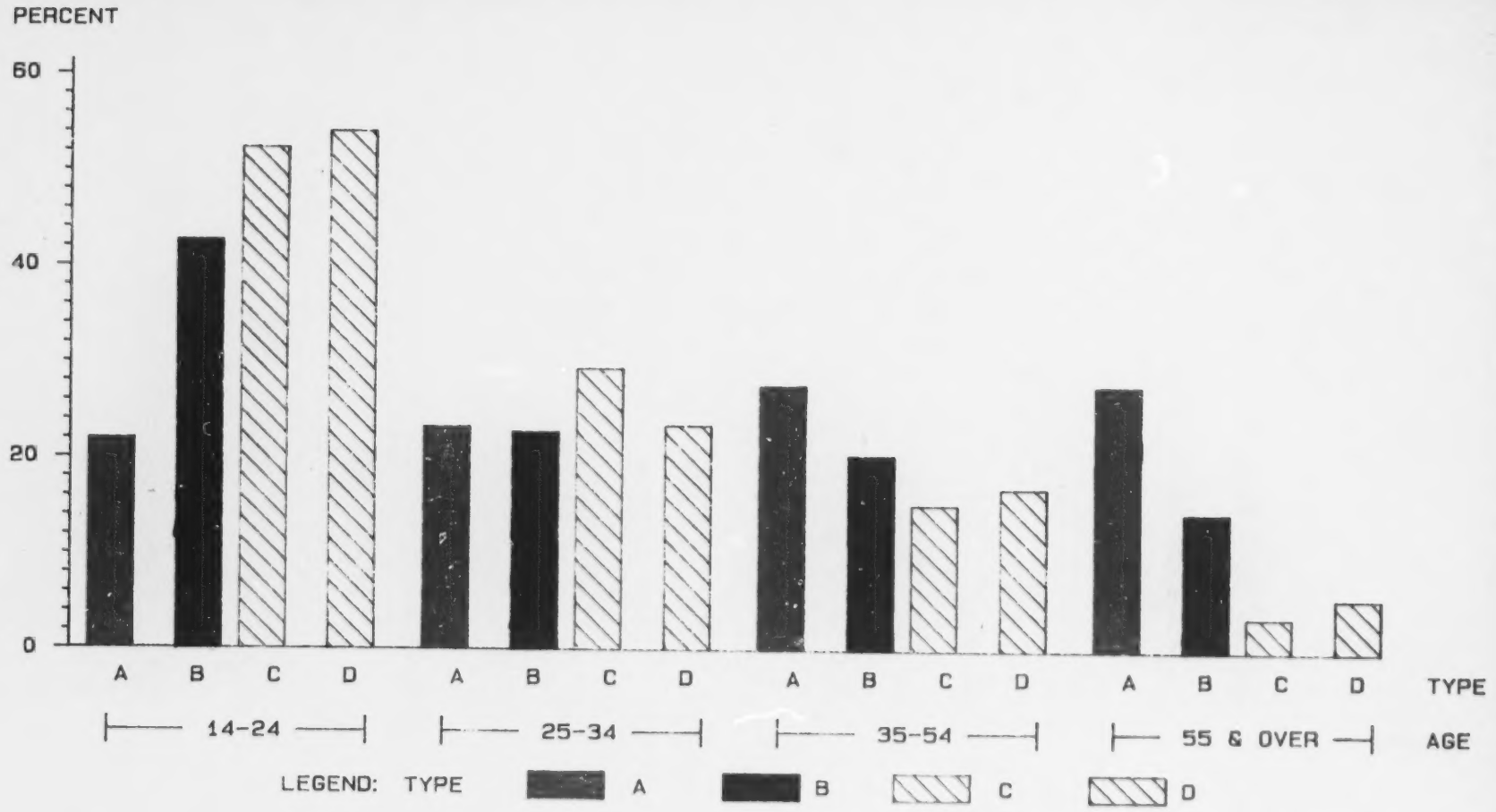
TABLE 3-17 compares age of drivers in fatal and injury accidents, drinking drivers in fatal and injury accidents, and speeding drivers in fatal and injury accidents with licensed drivers by age. Again the young driver is overrepresented as those drivers in fatal and injury accidents, drinking drivers in fatal and injury accidents, and speeding drivers in fatal and injury accidents. Twenty-two percent of the licensed drivers in South Dakota were under 25, but 52.2 percent of the drinking drivers in fatal and injury accidents and 54 percent of the speeding drivers in fatal and injury accidents were under 25 years of age. Over 80 percent of the drinking drivers in fatal and injury accidents and 77 percent of the speeding drivers in fatal and injury accidents were under 35 years of age while constituting 45 percent of all licensed drivers (also see FIGURES 3-9 and 3-10)

TABLE 3-17
LICENSED DRIVERS BY AGE AND FATAL AND INJURY ACCIDENTS
1984

Age	Licensed Drivers %	Drivers In Fatal & Injury Accidents No.	%	Drinking Drivers In Fatal & Injury Accidents No.	%	Speeding Drivers In Fatal & Injury Accidents No.	%
0-13	0.0	21	0.3	0	0.0	6	0.5
14-15	1.6	215	3.2	9	0.9	50	3.9
16-17	3.5	545	8.0	59	6.1	140	11.0
18	2.0	346	5.1	66	6.8	93	7.3
19	2.1	366	5.4	73	7.5	83	6.6
20	2.3	344	5.1	73	7.5	74	5.8
21-24	10.3	1,054	15.5	228	23.4	240	18.9
25-34	23.1	1,543	22.7	285	29.2	296	23.4
35-44	15.7	845	12.5	97	9.9	158	12.5
45-54	11.8	526	7.8	51	5.2	56	4.4
55-64	12.3	464	6.8	24	2.5	42	3.3
65 & Over	15.3	517	7.6	10	1.0	29	2.3
Total	100	6,786	100	975	100	1,267	100

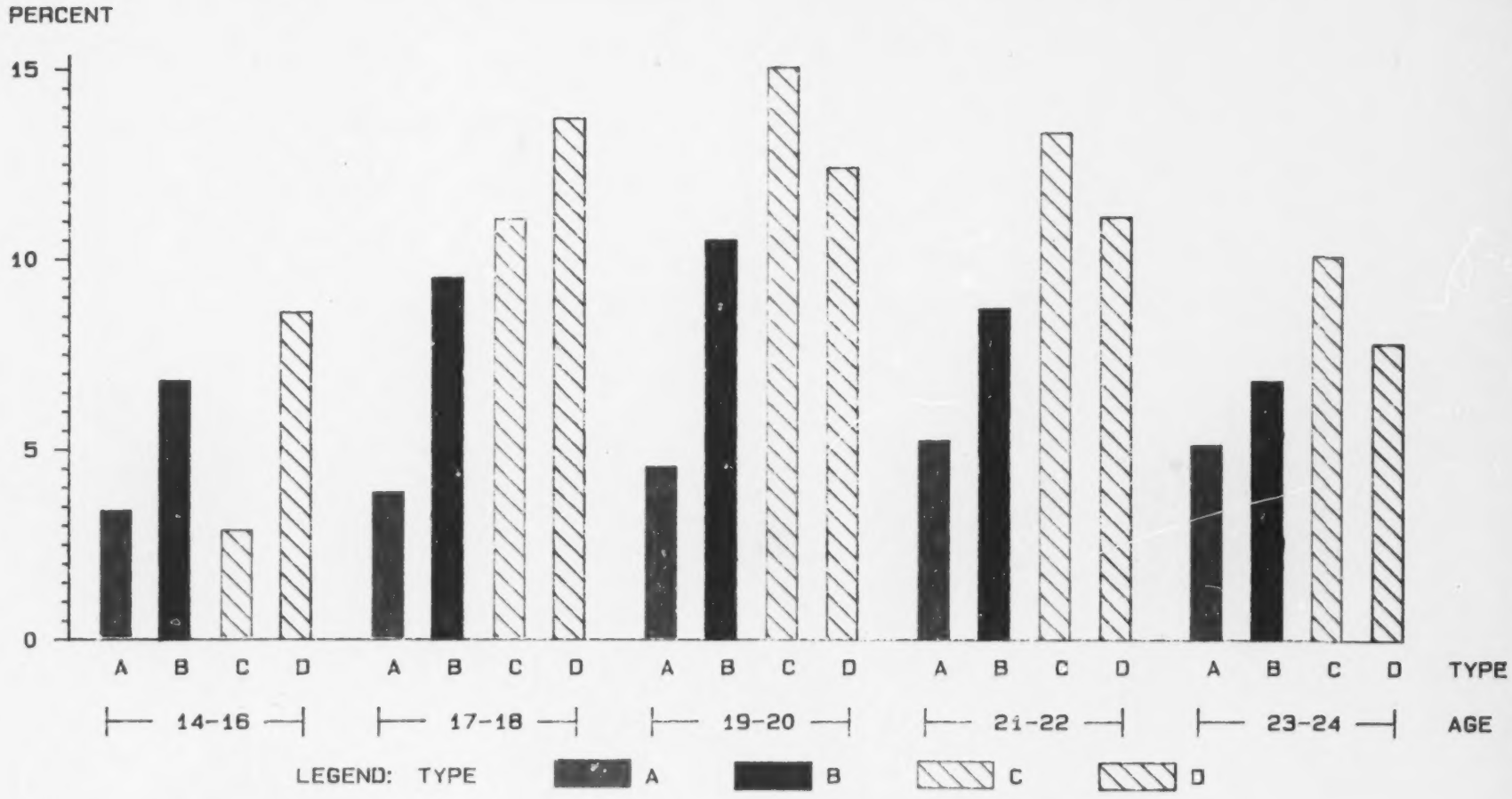
Note: Excludes drivers with an unknown age.
July 1, 1984 the legal drinking age for 3.2 beer was raised to 19 from 18.

Source: Department of Transportation:Accident Records



A--LICENSED DRIVERS
B--ACCIDENT INVOLVED DRIVERS
C--ACC INVOLVED DRINKING DRIVERS
D--ACC INVOLVED SPEEDING DRIVERS

FIGURE 3-9 DRIVERS BY AGE GROUP 1984



A--LICENSED DRIVERS
B--ACCIDENT INVOLVED DRIVERS
C--ACC INVOLVED DRINKING DRIVERS
D--ACC INVOLVED SPEEDING DRIVERS

FIGURE 3-10 YOUNG DRIVERS BY AGE GROUP 1984

Driver actions are reported to indicate possible factors that may have contributed to the accidents. These factors are referred to as driver contributing circumstances. Drinking was the leading driver contributing circumstance in fatal accidents during 1984. It was indicated that the drinking of 67 or 36.4 percent of the drivers in fatal accidents contributed to the accident. Exceeding the speed limit was the second leading driver contributing circumstance in fatal accidents. Failing to yield to another vehicle was was the leading contributing circumstance in injury accidents. Driving on the wrong side of the road and exceeding a safe speed but not the legal limit were other leading driver contributing circumstances in fatal and injury accidents (see TABLE 3-18).

TABLE 3-18
MOTOR VEHICLE DRIVER CONTRIBUTING CIRCUMSTANCES
1984

	Total Accd. No.	%	Fatal Accd. No.	%	Injury Accd. No.	%	PDO Accd. No.	%
No Contributing Circumstance	11,059	47.9	60	32.6	2,872	43.3	8,127	49.9
Drinking	2,058	8.9	67	36.4	912	13.8	1,079	6.6
Exceeded Speed Limit	1,220	5.3	38	20.7	540	8.1	642	3.9
Wrong Side of Road	628	2.7	19	10.3	259	3.9	350	2.1
Exceeded Safe Speed But Not Limit	2,280	9.9	14	7.6	678	10.2	1,588	9.8
Failed to Yield to Vehicle	3,179	13.8	16	8.7	950	14.3	2,213	13.6
Failed to Stop for Stop Sign/Flashing Red	409	1.8	13	7.1	166	2.5	230	1.4
Fell Asleep	399	1.7	9	4.9	174	2.6	216	1.3
Improper Passing	327	1.4	6	3.3	97	1.5	224	1.4
Distracted by Obj/ Person in Car	496	2.1	2	1.1	182	2.7	312	1.9
Improper Turn	624	2.7	1	0.5	163	2.5	460	2.8
Following Too Closely	931	4.0	2	1.1	343	5.2	586	3.6
Improper Backing	482	2.1	0	0.0	30	0.5	452	2.8
Other*	2,542	11.0	19	10.3	768	11.6	1,755	10.8
Unknown	641	2.8	14	7.6	137	2.1	490	3.0
Total Drivers	23,100		184		6,631		16,285	

Note: The investigating officer may assign from zero to three contributing circumstances to each driver; therefore, the number of drivers in motor vehicle accidents does not equal the number of contributing circumstances. The number of drivers having drinking as a contributing circumstance is to equal the number of reported drinking drivers in accidents.

*Other includes driving under posted minimum, failed to yield to pedestrian, disregarded stop and go signal, disregarded other traffic control devices, improper signal or failure to signal, turning from wrong lane, improper lane change, improper start from parked position, improper parking, failure to comply with license restrictions, drugs, illness, physical impairment, and illegally in roadway.

Source: Department of Transportation:Accident Records

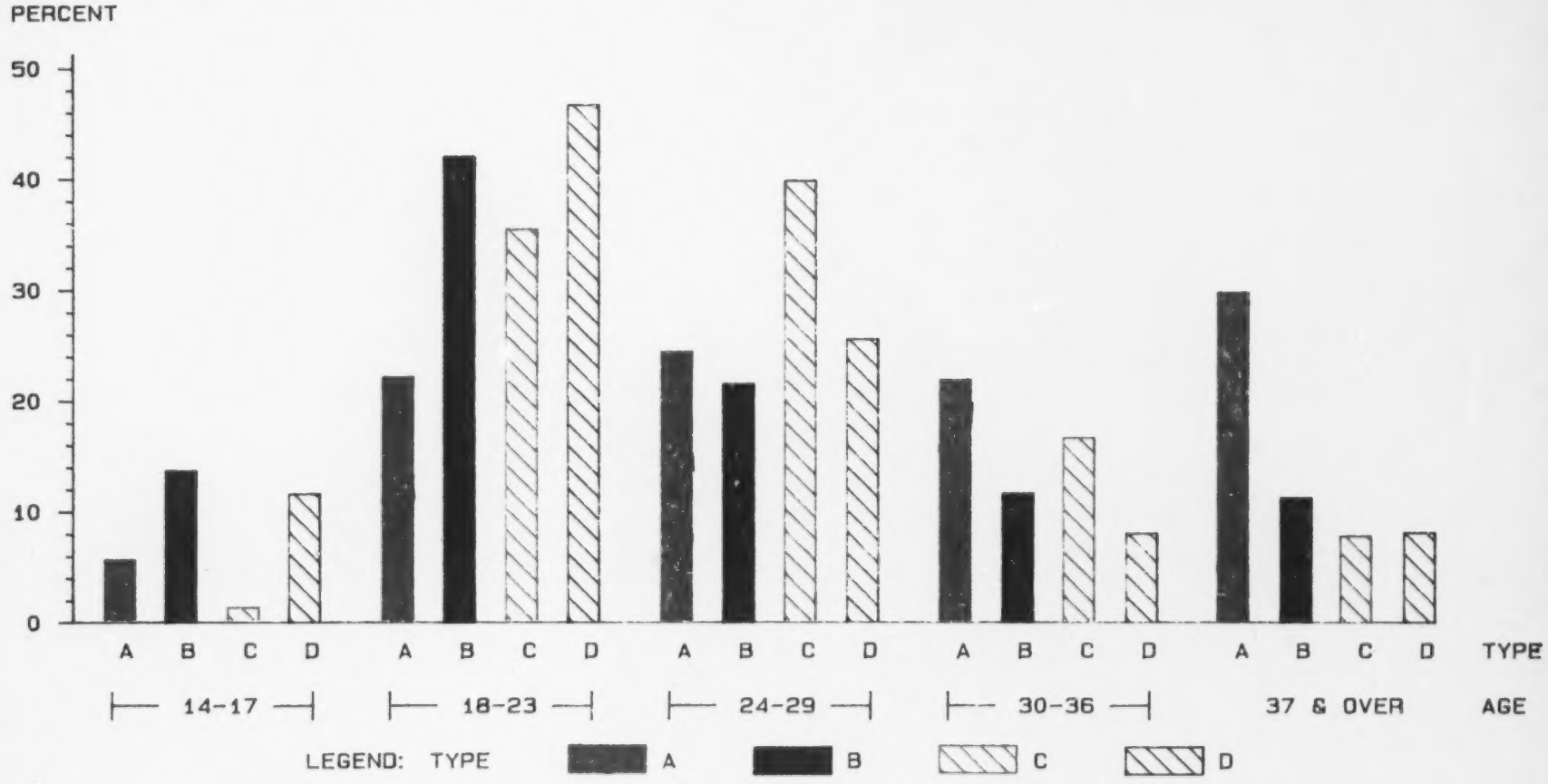
Motorcycles

Motorcycle accidents constitute approximately four percent of all accidents, seven percent of all fatal accidents, and 11 percent of all injury accidents. There were 10 people killed and 563 injured on motorcycles in the 559 reported motorcycle accidents during 1984. Motorcycle registration and licensed motorcyclists have increased annually while the number of motorcycle accidents have shown a decline in the last few years (see TABLE 2-5). The young motorcycle driver is overrepresented in accidents when compared to their portion of licensed motorcycle operators. Over 30 percent of all accident-involved riders are less than 20 years of age and over 75 percent are under 30 (see TABLE 3-19 and FIGURE 3-11).

TABLE 3-19
MOTORCYCLISTS BY AGE GROUP
1984

Age Group	Licensed Motorcyclists		Accident Involved Motorcyclists		Accident Involved Drinking Motorcyclists		Accident Involved Speeding Motorcyclists	
	%	No.	%	No.	%	No.	%	No.
0-13	0.0	0	2.1	12	0.0	0	2.2	3
14-15	1.5	703	5.0	28	0.0	0	3.6	5
16-17	3.9	1,778	6.6	37	1.1	1	5.8	8
18-19	5.4	2,470	16.8	94	9.9	9	18.2	25
20-21	7.6	3,464	16.6	93	16.5	15	20.4	28
22-23	8.9	4,082	8.6	48	8.8	8	8.0	11
24-25	7.9	3,627	9.1	51	19.8	18	10.2	14
26-27	8.3	3,815	6.3	35	8.8	8	8.0	11
28-29	8.0	3,664	6.1	34	11.0	10	7.3	10
30-31	7.3	3,329	6.1	34	9.9	9	4.4	6
32-36	14.4	6,573	5.5	31	6.6	6	3.6	5
37-41	8.7	3,963	4.1	23	5.5	5	1.5	2
42-51	10.0	4,567	4.1	23	1.1	1	4.4	6
52-Over	8.2	3,728	3.0	17	1.1	1	2.2	3
Total	100	45,763	100	560	100	191	100	137

Source: Department of Transportation:Accident Records
Department of Commerce & Regulation:Driver License Issuance



A--LICENSED MOTORCYCLISTS
B--ACC INVOLVED MOTORCYCLISTS
C--ACC INVOLVED DRINKING MOTORCYCLISTS
D--ACC INVOLVED SPEEDING MOTORCYCLISTS

FIGURE 3-11 MOTORCYCLISTS BY AGE GROUP 1984

Pedestrians

There were 14 pedestrians killed and 139 injured in motor vehicle accidents during 1984 (see TABLE 3-20). The youngest pedestrian killed was 19 years old while the oldest was 78. There does not appear to be any particular age group that is overrepresented in pedestrian fatalities, however, half of the fatalities were over 45 years old. Most of the injured pedestrians were younger persons, over 60 percent were under 25 years old. Since 1970 there has been an average of 19 pedestrians killed in accidents each year (see TABLE 2-6). Illegally in roadway, clothing not visible, and drinking were the three most common contributing circumstances in pedestrian fatalities. There were no contributing circumstances in 74 or 53 percent of the pedestrian injuries. Officers reported that 64 percent or 9 of the pedestrians killed had been drinking alcohol (see TABLE 3-21). The average BAC of those pedestrians who had been drinking was .14 percent. Over 57 percent of the pedestrian fatalities occurred in rural areas while the majority of the pedestrian injuries happened in urban areas, 84.9 percent (see TABLE 3-22).

TABLE 3-20
AGE OF PEDESTRIANS IN
TRAFFIC ACCIDENTS
1984

	Fatalities		Injuries	
Age	No.	%	No.	%
0-5	0	0.0	18	12.9
6-13	0	0.0	41	29.5
14-19	1	7.1	13	9.4
20-24	2	14.3	14	10.1
25-34	3	21.4	11	7.9
35-44	1	7.1	11	7.9
45-54	4	28.6	8	5.8
55-64	1	7.1	7	5.0
65 & Over	2	14.3	13	9.4
Unknown	0	0.0	3	2.2
Total	14	100	139	100

Source: Department of Transportation:Accident Records

TABLE 3-21
ALCOHOL INVOLVEMENT BY PEDESTRIANS
1984

Alcohol Involvement	Fatalities		Injuries	
	No.	%	No.	%
Alcohol or Drugs	9	64.3	13	9.4
No Alcohol	4	28.6	119	85.6
Unknown	1	7.1	7	5.0
Total	14	100.0	139	100.0

Source: Department of Transportation:Accident Records

TABLE 3-22
RURAL VS. URBAN PEDESTRIAN ACCIDENTS
1984

	Killed	Injured
Rural	8	21
Urban	6	118
Total	14	139

Source: Department of Transportation:Accident Records

Bicycles

There were four bicycle drivers killed and 94 injured in reported motor vehicle accidents during 1984 (see TABLE 3-23). There was also one bicycle passenger injured during 1984. The leading factor in bicycle involved crashes was the bicycle driver failing to yield to a motor vehicle. Other bicyclist contributing circumstances were improper turning, being on the wrong side of the road, illegally in the roadway, failing to stop for stop sign or flashing red light and improper signal or not signaling. Thirty-two of the bicycle drivers in accidents had no contributing circumstances. The yearly, 1970-1984, trend of bicycle fatalities and injuries is provided in TABLE 2-7.

TABLE 3-23
AGE OF BICYCLE DRIVERS
IN TRAFFIC ACCIDENTS
1984

Age	Fatalities Number	Injuries Number	Injuries %
0-5	0	4	4.3
6-13	2	54	58.1
14-19	1	18	19.4
20-24	0	6	6.5
25-34	0	4	4.3
35-44	0	2	2.2
45-54	1	2	2.2
55-64	0	2	2.2
65 And Over	0	1	1.1
Unknown	0	0	0.0
Total	4	93	100

Source: Department of Transportation:Accident Records

Use of Safety Equipment

The use of safety equipment is reported on all motor vehicle drivers in an accident and only on those passengers that are injured. During 1984 only 8.9 percent of the motor vehicle drivers in accidents were using safety restraints (see TABLE 3-24). Sixty-eight drivers of motor vehicles were killed while not using any safety restraint, while one driver was killed while using some type of safety restraint (does not include drivers of motorcycles, mopeds and snowmobiles). Over 91 percent (2,924) of the injured drivers were not using safety restraints.

TABLE 3-24
SAFETY RESTRAINT USE BY MOTOR VEHICLE DRIVERS IN ALL ACCIDENTS
1984

Age of Driver	Safety Restraint Used		No Safety Restraint Used	
	No.	%	No.	%
6-13	0	0.0	19	100
14-15	26	4.6	535	95.4
16-17	63	3.7	1,656	96.3
18-20	144	5.0	2,742	95.0
21-24	232	7.7	2,775	92.3
25-34	560	12.1	4,065	87.9
35-44	305	11.7	2,312	88.3
45-54	180	11.1	1,447	88.9
55-64	155	10.1	1,378	89.9
65 & Over	140	8.4	1,533	91.6
Not Stated Or Unknown	0	0.0	71	100
Total	1,805	8.9	18,533	91.1

Note: Includes all drivers of motor vehicles except drivers of mopeds, motorcycles and snowmobiles. Also excludes those drivers under 13 years of age. Percentages are row percents.

Source: Department of Transportation:Accident Records

There were three young children (0 through 4 years of age) killed in motor vehicle accidents during 1984 and they were not protected by any safety equipment. There were no young children killed in accidents while using safety equipment (either safety belts or child restraint devices).

Helmets were used by 171 or 32.5 percent of the motorcycle drivers in accidents while 355 or 67.5 percent did not wear a helmet (see TABLE 3-25). Eight motorcycle drivers and two motorcycle passengers were killed during 1984; none were wearing helmets and only two of the drivers were utilizing the required eye protection.

TABLE 3-25
HELMET USE BY MOTORCYCLE DRIVERS IN ACCIDENTS
1984

	Helmet Used		Helmet Not Used	
Age	No.	%	No.	%
6-13	2	25.0	6	75.0
14-15	21	75.0	7	25.0
16-17	20	60.6	13	39.4
18-20	40	29.6	95	70.4
21-24	30	28.0	77	72.0
25-34	28	20.3	110	79.7
35-44	14	32.6	29	67.4
45 & Over	16	51.6	15	48.4
Unknown & Not Stated	0	0.0	3	100
Total	171	32.5	355	67.5

Note: Percentages are row percents.

Source: Department of Transportation:Accident Records

IV. GLOSSARY OF TERMS

Reportable Traffic Accident: motor vehicle traffic accident which involves death, injury or accumulated property damage of $400.00 or over.

Fatal Accident: motor vehicle traffic accident in which at least one person was killed.

Injury Accident: motor vehicle accident in which at least one person was injured and no one was killed.

Property Damage Only (PDO) Accident: motor vehicle accident in which no one was killed or injured but there was at least $400.00 in property damage.

Fatality Rate: number of traffic fatalities per 100 million vehicle miles traveled.

Alcohol Involved Accident (1983-1984): at least one driver, pedestrain, or bicycle driver had been drinking in the opinion of the investigating officer.

APPENDIX A

V. Alcohol Evaluation[1]

The following provides further information on the impact evaluation conducted on the DWI Countermeasures. The evaluation was previously published in South Dakota's 1984 Administrative Evaluation of the Highway Safety Plan. The data in the tables were used to conduct the time series analysis.

The initial step in the analysis was to estimate the change in the level of fatal and injury crashes experienced after the project implementation of 10/1/81, and to determine if the economy as reflected by the vehicle miles traveled (VMT) was responsible for the change. The results of this portion of the analysis indicates that:

1. The reduction in fatal and injury crashes is statistically significant at the $p = 0.01$ level. Furthermore, this reduction is estimated at about 29 fatal and injury accidents per month. This amounts to 957 accidents over the 33-month period since 10/1/81. Using an average of 1.5 injuries per accident we can estimate that 1,435 injuries were prevented because of the reduction of fatal and injury accidents.

2. Assuming that the VMT time series reflects the effects of the economy, the estimated reduction in fatal and injury crashes since 10/1/81 is due to other causes. The evaluation strategy used in this analysis postulates that the reduction is due to the increased alcohol countermeasure efforts.

The second phase of the analysis was to estimate the change in the level of alcohol-related fatal and injury crashes experienced after the project implementation of 10/1/81, and to relate DWI arrest levels to that change. The results of this portion of the analysis indicate that:

1. The change in level of alcohol-related fatal and injury crashes is statistically significant at the $p = 0.01$ level. The estimated reduction in alcohol-related fatal and injury crashes is about 27 per month. This translated into the prevention of 891 accidents or 1,336 injuries (based on an average of 1.5 injuries per accident) since 10/1/81. Note that this accounts for most of the reduction in total fatal and injury crashes.

2. The alcohol-related fatal and injury accidents are correlated to DWI arrest levels. This correlation is negative, which indicates that as arrests increase, the number of crashes tend to decrease; furthermore, it takes about 6 months for this impact to take effect.

The final phase of the analysis was to use fatal crash counts and alcohol-related fatal crash counts to estimate the effects of the project on lives saved. The results of this portion of the analysis indicate that:

1. The change in level for all fatal accidents is about 4 accidents per month. This translates into 132 fatal accidents during the 33-month period after 10/1/81. Using an average of 1.15 persons killed per fatal accident we arrive at 152 lives saved in all fatal accidents. This decrease is statistically significant at the $p = 0.01$ level.

2. The change in trend for alcohol-related fatal accidents is about 1.9 per month or 63 alcohol-related fatal accidents over the 33-month period following the beginning of the project. Again, using an average of 1.15 persons killed per fatal accident we arrive at 72 lives saved due to the reduction in alcohol related fatal accident experience. This decrease is statistically significant at the $p = 0.02$ level.

In summary, through using time series analysis it was determined that the increased efforts to remove the drinking driver were responsible for the decline in traffic crashes and not the economy. The relationship between DWI arrests and alcohol related fatal and injury accidents was significant at the $p = 0.01$ level while the relationship between DWI arrests and alcohol-related fatal accidents was significant at the $p = 0.02$ level. In actual numbers, there have been 27 fewer alcohol related fatal and injury accidents per month since October, 1981. In looking at just fatal accidents, there have been 1.9 fewer alcohol-related fatal accidents per month since October, 1981. The reduction of these accidents translates into saving about 72 lives and preventing 1,336 non-fatal injuries since October, 1981.

---

†The initial evaluation of South Dakota's DWI efforts appeared in the South Dakota Highway Safety Administrative Evaluation - Fiscal Year 1983 with a shortened version included in the 1983 South Dakota Motor Vehicle Traffic Accident Summary. The updated evaluation contains nine (9) additional months of data or through June 1984; there is now 33 months of data since the intervention as compared to 24 months in the initial study. Other differences include: a) The Department of Transportation changed VMT's for 1983 which the evaluation had to account for; the VMT's went from no change to an increase of four (4) percent; b) the smallest level of statistical significance used was $p = .02$ as compared to $p = .10$ in the initial study; c) the change in level for alcohol fatal and injury crashes remained the same, statistically significant at $p = .01$ and an average reduction of 27 crashes of this type per month; d) the alcohol-related fatal accidents now show a change in trend and not a level change, this evaluation indicates statistical significance at $p = .02$ with an average decrease of 1.9 alcohol-related fatal accidents per month while the previous evaluation was statistically significant at $p = .05$ with an average decrease of 3.7 alcohol-related fatal accidents per month. Currently the reduction is less per month in alcohol-related fatal accidents but the significance is much higher. The number of lives saved since 10-1-81 is now 72 through 6-6-8[illegible] as compared to 102 through 9-30-83 that was indicated in the initial evaluation. It can now be stated with more confidence that the alcohol efforts are saving lives but not as many as previously estimated. It is important to note that the estimate for the decrease in alcohol-related fatal and injury crashes remained the same which again is highly significant in that now for 33 months there has been a level change in reduction of these types of accidents.

A-1
FATAL MOTOR VEHICLE TRAFFIC ACCIDENTS

	1979	1980	1981	1982	1983	Preliminary 1984
JANUARY		10	7	5	7	7
FEBRUARY		9	13	9	8	7
MARCH		11	16	6	11	5
APRIL		15	13	7	8	8
MAY		21	13	15	17	13
JUNE		24	15	11	15	9
JULY	20	11	12	12	18	
AUGUST	16	21	19	23	15	
SEPTEMBER	26	27	16	14	19	
OCTOBER	14	9	15	10	9	
NOVEMBER	17	14	13	7	15	
DECEMBER	22	16	10	10	5	
TOTAL	115	188	162	129	147	49

Source: Department of Transportation:Accident Records Program

A-2
ALCOHOL INVOLVED FATAL MOTOR VEHICLE TRAFFIC ACCIDENTS*

	1979	1980	1981	1982	1983	Preliminary 1984
JANUARY		7	7	3	3	3
FEBRUARY		5	11	3	3	4
MARCH		7	10	2	6	2
APRIL		7	6	3	5	4
MAY		12	10	11	9	6
JUNE		15	9	6	8	2
JULY	9	5	7	9	8	
AUGUST	12	13	12	14	9	
SEPTEMBER	11	16	9	9	6	
OCTOBER	6	6	7	7	8	
NOVEMBER	12	4	9	4	6	
DECEMBER	14	8	3	6	1	
TOTAL	64	105	100	77	72	21

*An accident is determined to be alcohol involved if at least one driver, pedestrian or bicyclist had been drinking in the opinion of the investigating officer and/or had a positive BAC.

Source: Department of Transportation:Accident Records Program

A-3

FATAL AND INJURY MOTOR VEHICLE TRAFFIC ACCIDENTS

	1979	1980	1981	1982	1983	Preliminary 1984
JANUARY	319	320	311	328	332	307
FEBRUARY	324	336	298	252	260	268
MARCH	382	338	326	271	292	335
APRIL	345	335	368	301	297	275
MAY	439	428	450	401	353	359
JUNE	445	484	453	381	377	396
JULY	492	482	541	432	472	
AUGUST	560	547	502	477	461	
SEPTEMBER	417	431	375	404	382	
OCTOBER	460	451	413	370	355	
NOVEMBER	399	382	364	351	357	
DECEMBER	413	424	375	353	369	
TOTAL	4,995	4,958	4,776	4,321	4,307	1,940

Source: Department of Transportation:Accident Records Program

A-4

ALCOHOL RELATED FATAL AND INJURY MOTOR VEHICLE TRAFFIC ACCIDENTS*

	1979	1980	1981	1982	1983	Preliminary 1984
JANUARY		88	103	45	60	52
FEBRUARY		76	104	57	68	57
MARCH		87	107	60	60	78
APRIL		91	125	77	64	67
MAY		136	150	132	108	87
JUNE		130	122	94	80	70
JULY	109	127	129	110	119	
AUGUST	143	164	137	94	103	
SEPTEMBER	105	125	96	91	105	
OCTOBER	119	120	113	93	107	
NOVEMBER	123	125	99	71	81	
DECEMBER	128	122	81	83	42	
TOTAL	727	1,391	1,366	1,007	997	411

*An accident is determined to be alcohol involved if at least one driver, pedestrian or bicyclist had been drinking in the opinion of the investigating officer and/or had a positive BAC.

Source: Department of Transportation:Accident Records Program

A-5
VEHICLE MILES TRAVELED
(In Thousands)

	1979	1980	1981	1982	1983	1984
JANUARY	355,560	363,679	382,561	318,148	434,433	444,477
FEBRUARY	370,518	363,604	368,695	368,853	430,475	433,731
MARCH	410,938	391,121	411,288	378,081	443,351	445,734
APRIL	442,090	418,092	431,993	421,771	473,072	477,701
MAY	497,747	475,740	481,446	481,585	549,374	559,839
JUNE	545,785	518,065	545,452	552,762	634,349	602,654
JULY	552,459	549,626	578,923	579,360	666,204	
AUGUST	581,348	573,345	582,560	585,662	663,732	
SEPTEMBER	512,777	486,626	506,045	508,743	596,251	
OCTOBER	490,017	475,389	472,873	478,494	584,659	
NOVEMBER	419,457	428,789	411,785	422,960	467,777	
DECEMBER	433,390	412,057	408,504	431,743	461,917	
TOTAL	5,614,086	5,456,133	5,582,125	5,528,162	6,405,594	2,964,136

Source: Department of Transportation:Data Inventory

A-6
DWI ARREST ACTIVITY*

	1979	1980	1981	1982	1983	1984
JANUARY		343	340	442	794	854
FEBRUARY		310	381	455	848	630
MARCH		372	434	446	793	799
APRIL		384	375	623	849	776
MAY		355	403	545	892	784
JUNE		356	426	500	673	811
JULY	324	305	453	582	975	
AUGUST	344	365	473	554	843	
SEPTEMBER	348	310	477	700	874	
OCTOBER	326	327	510	710	966	
NOVEMBER	370	389	396	535	648	
DECEMBER	356	322	392	746	568	
TOTAL	2,068	4,138	5,060	6,838	9,723	4,654

*DWI arrest activity is estimated by summing the chemical tests analyzed by the State Chemical Laboratory for DWI arrests and the number of "refusals" processed by the Department of Commerce and Regulation. A "refusal" refers to an individual who was arrested for DWI and refused to submit to a chemical test to determine his BAC.

Source: Department of Health:State Health Laboratory
Department of Commerce and Regulation:Driver Improvement Program